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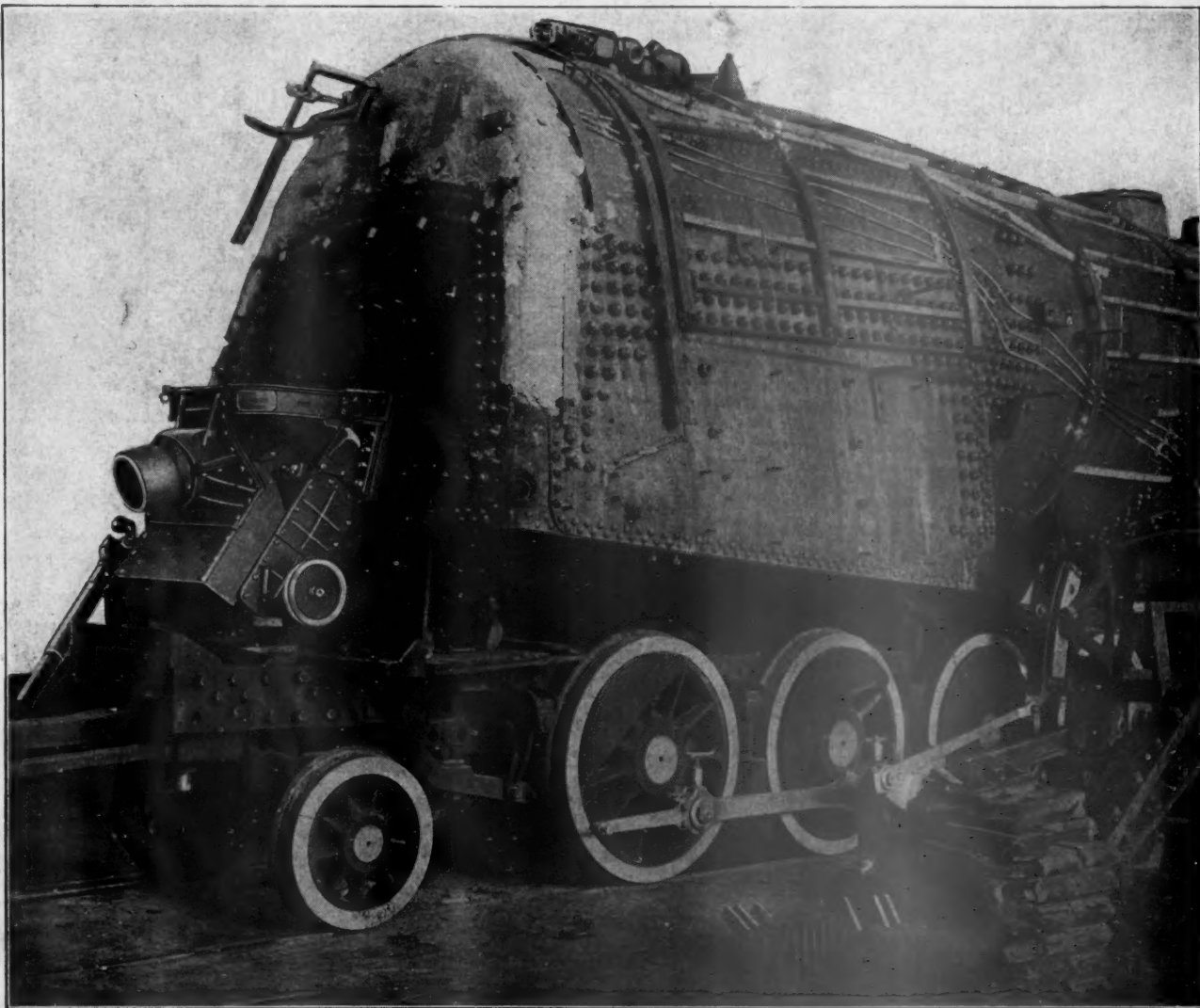
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SIXTY-SEVENTH YEAR

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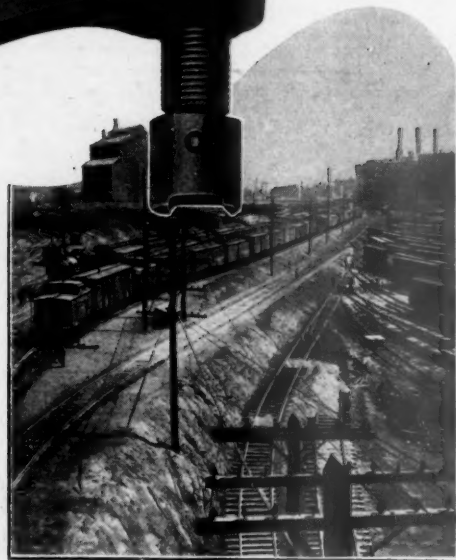


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EDITORIAL

Railway Age

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Charles Hayden, chairman of the board of the Chicago, Rock Island & Pacific, recently sent a letter to the stockholders of

Stockholders Must Be Educated

that system which is well worth a wider circulation among those who are interested in the railway problem; it is reproduced on another page of this issue. Railroad credit must be improved and the roads must be placed in shape for the peak load that will surely come upon them sooner or later. The credit can only be restored when the public understands fully the facts of the railroad situation and the prime necessity, purely in its own interests, of strengthening and improving them. Mr. Hayden has shown excellent judgment in talking so frankly to the stockholders of his road. Secretary Hoover, representing the public and testifying before the Interstate Commerce Commission last week, was equally frank, as indicated by the rather complete draft of his statement which appears elsewhere in this number. If railroad credit is not restored and the transportation machine fails when business revives, then it is quite possible for industry to lose tremendous sums of money because of lack of transportation, as is so clearly indicated by Mr. Hoover. After all, the public, as well as the stockholders, are partners in the railroad game, and it is greatly to be regretted that so many interests are at work in distorting the facts about railroad operation and finance and misrepresenting the railroads to the public. More power to men like Mr. Hayden and Secretary Hoover who frankly and fearlessly state the real facts.

The main points in our editorial of January 14, on the lesson of the Woodmont (Pa.) collision, might be repeated this week

The Lesson of the Last Collision

in connection with a collision at Camps, Texas, reported in another column of this issue. We notice this report, at this time, as a reminder that our observations in the former editorial are neither untimely nor overdrawn. The emphasis placed by the federal and state inspectors on other lessons of the Woodmont disaster should not be allowed to obscure the immediate lesson; the lesson that the block system is needed everywhere, on thin lines, as well as on busier ones, and that the manual block system, *properly managed*, is the only satisfactory scheme where automatic signals have not been installed. The venerated American train-dispatching system has long since written its own epitaph. The qualifying clause which we have italicized is the main point of the present lesson, for the block system was ostensibly in force both at Woodmont and at Camps, but under such very inadequate rules that the system was little better than a farce. This has been the main feature in a great many other government reports of this kind. It is a feature in which a sweeping reform is needed. The annual government report represents a large mileage of railroad as operated by the block system, in name, but which is not thus operated in fact. At Camps the dispatcher changed meeting points at the last minute; one of those typical cases where, to the casual observer, trainloads of passengers seem to be moved with as much freedom and with as narrow margins of protection against collision, as though they were nothing but checkers on a checker-board.

On Monday of this week W. B. Storey, president of the Atchison, Topeka & Santa Fe, authorized the statement that

The Outlook Continues to Grow Brighter

that road will spend \$43,150,000 for improvements and additions to its property this year. Of this amount \$11,750,000 has been set aside for the completion of work held up during the depression, \$22,000,000 for new work and \$8,000,000 for equipment. Particularly significant is the appropriation of over \$6,600,000 for additional main lines and \$1,400,000 for the construction of a 55-mile extension in southwestern Kansas, which is understood to be the forerunner of other lines in contemplation later in the season. On the following day the Chicago, Burlington & Quincy placed orders for 7,300 cars, involving an expenditure of nearly \$15,000,000. Coming as these developments do after other large equipment orders of recent weeks and after the awarding of an increasing number of contracts for improvements to roadway and structures, they indicate that many of the roads are not only seeing indications of better earnings which are warranting them in making these expenditures, but that they also see a revival of business which will require these added facilities.

The proposed order of the Interstate Commerce Commission on train control calls for immediate intensive study

Train Control Demands Careful Study

of this subject by the roads affected and also by those which may be required to make installations later. Heretofore this subject has been given more or less desultory attention, even since the passage of the Transportation Act which empowers the Commission to issue an order such as has recently been prepared. The time is now here when certain railroads must consider train control carefully and in their choice of a device it is necessary that the costs of installation, operation and maintenance receive serious consideration. These points will no doubt exert a marked influence in the selection finally made. However, deliberation also should be given as to the manner in which train control may be applied for bettering the present train operating methods in the future through the medium of the proposed installations. The roads which attempt to meet an immediate need only by preparing plans with the idea of "getting by" will find this expensive when a re-arrangement is required to meet the advanced operating practices which are being advocated. The responsible executive officers will do well to see that proper consideration is given to this question now.

The cupola on a caboose is such an institution in this country that a suggestion that it be abandoned would be a bold one.

Why the Cupola?

Nevertheless on at least one important road the cupolas have for the most been boarded up. The contention is that the train crew can detect hot boxes and dragging brake rigging much better from the lower windows than they can from the top. Such a conclusion seems logical but, on the other hand, it might be said that conditions in the cupola are such that constant

watchfulness on the part of the crew can be obtained with a minimum of discomfort, whereas peering from one of the small side windows necessitates an unnatural, cramped position. This condition might be remedied by providing adequate facilities for observation from the side windows. Cross seats could be built and a larger window, perhaps slightly extended with a narrow pane to permit a view forward without opening the side window, could be installed on each side of the car. Cupolas are expensive to maintain and make the heating of the cars difficult in winter. Perhaps they should be done away with on some roads. The provision of equally adequate facilities for constant watchfulness at the side windows, however, would strengthen the argument of those who take this view.

The principles of adjusted tonnage rating are familiar to most railroad operating men and practically all roads use this

Checking Tonnage Rating

method in making up trains. Like many other things which have become familiar through long use it is taken as a matter of course and usually receives little attention. There is reason to question whether tonnage rating as ordinarily applied gives the best results that could reasonably be expected. There is more to this method than mere trial runs will disclose. Both the resistance of the cars and the tractive effort developed should be carefully checked to insure that the full capacity of the locomotive is being developed. Such an analysis will bring out some surprising facts. On one road a new device was put in service. The railroad complained that it was not giving the economy that was anticipated. Investigations showed that the locomotive was hauling too light a train and was not being worked to capacity and therefore the device was not functioning properly. The same thing might happen on any road. The only certain way to fix a rating that will get full capacity out of the locomotives and insure economical operation is to check the performance with a dynamometer car. Where it is not used the rating of locomotives cannot be more than a guess. Surely every large railroad would find many uses for a dynamometer car. Yet the number of roads that own and operate such equipment could be counted on the fingers of one hand.

Present Cost of Living, Wages and Rates

A DEMAND FOR GENERAL reductions of railway rates, both passenger and freight, has been voiced in the recent hearings before the Interstate Commerce Commission. The spokesmen of the railways have indicated a willingness to make general reductions of rates, but they have claimed that to make general reductions of rates unaccompanied by reductions of wages would be injurious to the country; that it would wipe out the net operating income of the railways and render them unable to make needed increases in their facilities.

The most recent official statistics throw new light upon the important questions of the present relationships, first, between the cost of living and railway wages, and, secondly, between railway wages and railway rates. The statistics of the United States Bureau of Labor were used by the representatives of labor as the highest authority on the cost of living, when they were seeking advances in wages on the ground that the cost of living made them necessary. The Department of Labor has this week made public statistics showing that in December, 1921, the average cost of living in the United States was 47 per cent higher than in December,

1916. This is the lowest figure for cost of living that the Bureau of Labor has reported since before the war in Europe began.

How does the relationship between the present wages of railway labor and the cost of living compare with the relationship that existed between railway wages and the cost of living in 1916? The latest available statistics regarding railway wages are those of the Interstate Commerce Commission for September, 1921, which have just recently been made public, and there has been no change in wages since then. These statistics show that in September the average hourly earnings of railway employees were 61.3 cents as compared with 27.8 cents in the year 1916, or 121 per cent more. The railways in recent months have been handling slightly less traffic than in 1916. They have reduced the number of employees and the amount of their purchases as much as is consistent with the maintenance of their properties in a safe condition—in some cases, perhaps, more than this. In September they had 446,550 less employees than in the same month of 1920, a reduction of 26 per cent. Even after this drastic reduction of employees, however, they had on the pay roll in September, 1921, 1,718,330 men, or 4.3 per cent more than the average number employed in 1916. In spite of all the retrenchments made and the maintenance deferred, the eight-hour day and other rules and working conditions make it necessary to employ more men to handle the business than in 1916.

The use of the average increase of 121 per cent in hourly wages to indicate how much higher wages are than they were in 1916 has been criticized on the ground that it gives a false impression because the wages of some employees are not anywhere near this much higher than they were in 1916. There is justice in this criticism. The average hourly earnings of enginemen and trainmen in road service are only from 20 per cent for passenger engineers to 52 per cent for passenger baggagemen higher than they were in 1916. The facts indicate that, measured by the cost of living, there would be little or no justification for reducing the wages of some classes of employees.

But when it is shown that the increases of some employees have been comparatively small and at the same time that the average increase is still 121 per cent, it necessarily follows that the increases of some employees are much greater than the average. Bearing in mind that the cost of living is now only 47 per cent higher than in 1916, attention should be forcibly called to the relatively very large advances in wages that some employees are still enjoying and which are greatly inflating the cost of railway operation.

In September, 1921, car inspectors earned an average of 74½ cents an hour, which is 201 per cent more than they received in 1916. Switch tenders are getting 55.4 cents an hour, which represents an increase in their pay of 181 per cent. Air-brake men are receiving 76.2 cents an hour, which is 166 per cent more than they received in 1916. Car repairers are getting 73 cents an hour, an increase of 157 per cent. Yard firemen are getting 65 cents an hour, an increase of 138 per cent. Section laborers are receiving over 37 cents an hour, an increase of 126 per cent. Boilermakers are receiving 79 cents an hour, an increase of 93 per cent; and owing mainly to changes in rules and classifications, there are 55 per cent more of them employed than five years ago. Machinists are getting 78.3 cents an hour, or 91 per cent more than in 1916, and there are 48 per cent more of them on the pay roll. Yard conductors are getting 80.4 cents an hour, or 109 per cent more than five years ago, and there are 17 per cent more of them on the pay roll. Blacksmiths are receiving 78.6 cents an hour, or 100 per cent more than in 1916, and there are 14 per cent more of them on the pay roll.

Here are ten classes of employees, including about 500,000

men, each class of which are receiving average hourly wages representing advances since 1916 at least twice as great as the increase in the cost of living, and some of them enjoying increases over four times as great as the increase in the cost of living.

Compare these advances in wages with the advances in rates which have been made. Average railway rates in 1916 were the lowest in the history of the United States. The average rate per ton per mile in September, 1921, was 80 per cent more than in the year 1916; the average rate per passenger per mile, 53 per cent more. Because the advances in rates have been so much less than the advances in wages, and because the wages of labor constitute the bulk of railway expenses, substantial reductions of rates are incompatible with the earning of adequate net returns by the railways unless reductions of wages are to accompany the reductions of rates.

Does the public prefer to have the railways continue to pay the present wages or to reduce both the wages and the rates? That is the practical question presented. The public might conceivably decide that maintenance of the present wage scales is desirable. In that case, it could not consistently object to paying the present rates. On the other hand, if it decides that the present rates must be reduced, then it must recognize the fact that this decision necessarily carries with it a decision that the present wages must be reduced. The rates and the wages must stand or fall together.

Fiction and Facts About "Weak" and "Strong" Railroads

ONE ceases to wonder that many of the people of the United States in general, and of the state of Iowa in particular, misunderstand the railroad situation and favor unfair and ruinous regulation when one reflects on the amount of incorrect information that constantly is given them. The Des Moines Register in an editorial in its issue of January 26, entitled "What Railroads Overlook", affords some striking examples of the kind of railroad "information" often given to the public.

Some time ago the Register published a statement based on computations by Clifford Thorne as to the market value of railway stocks and bonds in July, 1920, indicating that the value of the railways did not exceed \$13,000,000,000. The *Railway Age* criticised this. The Register now says: "The *Railway Age* did not dispute Mr. Thorne's figures. It merely contended that the selling value of the property at a time like this could not be made on the basis on which to fix earnings." This statement is highly misleading. What the *Railway Age* did was to show that a similar computation based on the prices of stocks and bonds on June 30, 1916, indicated that at that time the market value of all railway stocks and bonds was \$17,830,000,000, and that since then the investment made in railroad properties has been \$2,800,000,000. If the Register does not desire to mislead its readers regarding the valuation the railways are entitled to, why does it not give them the facts regarding what railway securities were worth before as well as after two years of government control had largely destroyed the earning capacity and credit of the railways.

The Register continues: "But leaving that and coming to the last six months' earnings of the railroads as the *Age* gives them, the point the Register makes against the railroads and against the *Age*, as the spokesman of the railroads, is that they do not meet their own problem, for it could be shown that the operating expenses of several of the strongest roads have not in the last six months run much above 55 per cent of their earnings, while the operating expenses of others have run into 90 per cent of their earn-

ings. Of what importance is the general average in the face of the fact that rates on the Union Pacific and Santa Fe are high enough to enable those roads to operate on nearly half of their earnings?"

There is not a correct statement in this quotation, except that the expenses of some roads have run into 90 per cent of their earnings. It is not true that the operating expenses of "several of the strongest lines" in the last six months of 1921 did not much exceed 55 per cent of their total earnings; there is not a single important railway system in the United States of which this is true. The Register specifically mentions the Santa Fe and the Union Pacific. Its examples are skillfully chosen. These two roads had among the lowest operating ratios in the months mentioned of any leading railways in the country. But in these six months the operating expenses of the Santa Fe System were 69.2 per cent of its expenses, and those of the Union Pacific System were 69.04 per cent of its expenses. The difference between 55 per cent and 69 per cent is important. If the operating ratio of the Santa Fe System, for example, had been 55 per cent instead of 69 per cent, its net earnings in these six months would have been \$16,000,000 larger than they were.

How about other so-called "strong" roads? The operating ratios of practically all of them were the lowest and their net earnings the largest in October that they were in any month of the year. Even in October, however, the operating ratios of nine of the strongest railways in the country were as follows: Delaware, Lackawanna & Western, 74; New York Central, 75; Pennsylvania, 83; Atlantic Coast Line, 85; Louisville and Nashville, 78; Illinois Central, 72; Santa Fe, 63; Union Pacific (not including system subsidiaries), 59; Burlington, 73.

Furthermore, the ratio of earnings to expenses does not correctly indicate how much a railway has remaining out of its earnings with which to pay interest and dividends and make improvements. To arrive at this, its taxes must first be deducted. The Santa Fe is one of the most prosperous railways in the country, yet in the last six months of 1921 its operating expenses and taxes took 77 per cent of its earnings, while in the entire year, 1921 they took 82 per cent of its earnings. The Register especially singles out the Santa Fe as a railway whose earnings are "twice what the service ought to cost." This road each year publishes in its annual report a statement showing the percentage of net return that it has earned annually on its investment in property since it was re-organized in 1896. This statement shows that never in any year has the Santa Fe system earned more than 6.85 per cent on its property investment and that its average return in 26 years has been only slightly over 5 per cent. In 1921 it was just about 5 per cent.

Having predicted that the *Railway Age* would not be drawn into a discussion of the relations between the weak and strong railways the Des Moines Register added: "Yet that is the very thing that has got to be met by the railroads themselves, for if they do not they are going to be judged by the earnings of the strong roads. . . . The people will not consent to rates to keep the Great Western on the profitable list. By doing so they enable the Santa Fe to take twice what the service ought to cost. . . . It would have been better for them (the railways) in the long run if they had permitted some sort of consolidation after the war. . . . They should be able to see clearly that in some way the unusual advantage of such roads as the Union Pacific has got to be used to maintain service on such roads as the Great Western."

The *Railway Age* has been discussing the relations between the "weak" and "strong" roads for years, and has no reason for hesitating to discuss them now. For many years railway financiers and managers voluntarily effected consolidations of weak and strong roads. Why are there still "weak" and "strong" roads in every part of the country?

Largely because the government of the United States, under the Sherman Anti-Trust Law, for almost 30 years, more and more strongly opposed all consolidations of railways which had even a remote tendency to reduce competition. The *Railway Age* criticised this policy for years because it prevented reasonable and desirable consolidation. Was not the Des Moines Register at that time opposing all consolidations that would reduce competition? Spokesmen of the railways, including the Railway Executives' Advisory Committee and the Association of Railway Executives, repeatedly presented to committees of Congress plans for changes in our system of regulation, and every one of these included modifications of the government's policy which would have authorized all consolidations of railways that the Interstate Commerce Commission might hold would not be prejudicial to the public interest. Nevertheless, the Sherman Anti-Trust Law, as it applied to the railways under private operation, was kept in full effect until March 1, 1920. How can the railways, in the face of this record, be justly criticised for not having "permitted some sort of consolidation after the war"?

On March 1, 1920, the Transportation Act went into effect with provisions requiring the Interstate Commerce Commission to formulate a general plan for consolidation of all the railways into a limited number of continental systems. Since then the railways have had no power to effect any consolidations not in accordance with the Commission's general plan, and the Commission has not yet adopted any general plan.

But, it may be said, at least the railways are opposed to any general scheme for consolidating all weak roads with strong ones. But "the railways" as a whole have never taken any stand either for or against such a policy. Railway financiers and executives are virtually unanimous in believing that to both the railways and the public it would be beneficial for weak roads and strong roads in many cases to be consolidated. They differ, however, as to just what consolidations should be made and on what terms. There is not a class of students of the railroad problem in the United States,—public men, economists or shippers,—whose members do not disagree among themselves on this same subject. Should railway financiers and executives be denounced for disagreeing among themselves on a subject on which every other well-informed class of persons disagree?

There is one point regarding this matter of the weak and strong roads which is very pertinent but which the Des Moines Register ignores. Its statements imply that a "strong" road may keep all the net return it may earn. But the Transportation Act provides not only that the Interstate Commerce Commission shall fix rates which will yield the railways of each territorial group a fair return on their aggregate valuation, but also that if any railway earns more than 6 per cent upon its own valuation it shall pay one-half of the excess to the government. If, for example, a strong road should earn 10 per cent it would be allowed to retain only 8 per cent and required to give 2 per cent to the government. While the so-called 5½ per cent "guarantee" provision expires on March 1, this provision for the recapture of one-half of earnings over 6 per cent will remain in effect unless and until repealed.

When the Des Moines Register talks about some railways earning large returns, why does it ignore the fact that regardless of whether the average return earned by any group of railways is 6 per cent or 3 per cent, if a single railway in the group earns more than 6 per cent, the government gets one-half of the excess?

Railways have no right to complain of criticisms of them that are based upon facts fully and correctly stated. But criticisms of them which are based upon the incorrect statement of some facts and the ignoring of others which are closely related and highly pertinent are unjust both to the

railways and the public. They tend to create a public sentiment which will prevent a solution of the railroad problem based on knowledge and reason. There is more misinformation, prejudice and fanaticism on the subject of railroads, per square mile of area, in the state of Iowa than in any other state in the Union. Editorials such as the one in the Des Moines Register from which we have quoted help to explain why this is the case.

Co-operation

A SHIPPING CLERK in a local freight office of an eastern road recently addressed a letter to his management in which he said, in part, "I have been watching with particular interest the efforts of the roads to reduce the loss of freight revenue resulting from freight loss and damage claims. I have read the ideas and suggestions of our loyal workers and have in my own way tried to find some solution to this trying situation.

"There never has been a time when the better elements necessary to make the *real man* are needed more than now. The keynote of the whole matter is, What can I do?"

What can *he* do? Here is an interesting example of an employee of lesser rank who, not satisfied with the usual method of handling freight on his line and believing the freight claim problem to be capable of solution, has taken steps on his own initiative to help eliminate this waste and to prevent a continuance of this loss to his company. How many workers are striving towards the same goal of betterment and success, and on the other hand, what are the railroads doing to encourage such worthy aims from the rank and file of their employees? The answer is "few," in both cases.

His letter continued, "I believe that co-operation is a good thing, but how many of us fully realize what it takes to make it? Without individual effort and interest, co-operation will accomplish very little. However, if every man who participates in the handling of a freight shipment would feel his responsibility, and make it a point to do his part so well and carefully that no trouble would result while the shipment was in his custody, there would be little likelihood of any negligence, mistakes or errors causing loss or damage to the freight while in transit."

There is no doubt as to the correctness of this employee's statement. Co-operation is the cure of the freight claim ill and many other ills connected with the operation of railroads. However, the matter of most concern is, how to get this co-operation? One sure way is to encourage such worthy motives as described above. Monthly conferences, advertising, employee magazines, the suggestion box, new idea contests, just remuneration and promotion, and many other like means, are all possible ways of bringing together those who, in the past, have been somewhat unnoticed, for it is the shipping clerk and the freight handler who come in contact with the actual handling of the freight, not the office superintendent or other supervisors. It might be well in some instances to establish schools where the ambitious employee could become more proficient in railroad service and have the opportunity of greater advancement which otherwise might not come;—other large industries have tried this method with success. At any odds, get the men in the frame of mind of this shipping clerk, and human nature indicates that they will endeavor to improve their service and thus better themselves; rather this perhaps, than abide by the slogan of their labor union chiefs—as little work and the highest wages possible. The transition will be slow but co-operation can only be brought about by effective counter-propaganda to the present labor doctrines, showing the way to success and self-betterment.

The Future of the Automatic Hose Connector

JUST HOW LONG before public interest in the automatic hose connector as a safety device will manifest itself in some form of compulsory regulation no one can say with assurance, but it may safely be assumed that such a manifestation will eventually take place. That the railroads are not entirely unaware of this is evident from the growing interest in the connector which has been shown during the past seven or eight years. Since 1915 no less than seven such devices have been on trial in actual service and it is safe to say that no device with any reasonable probability of operating successfully has been deprived of its opportunity for a demonstration. At least two connectors seem to have passed the experimental stage so far as their essential features are concerned and their service indicates that, like all of the important safety devices so far developed, they can more than pay their way.

If then the railroads are aware of the value of the connector as a safety device the use of which the public eventually may demand and there are practical connectors in the field that have proved to be real economy devices, what ought the railroads to do? The answer would be obvious if it were not for one important consideration. Several types of connector heads have been developed; only one of them can ever be placed on freight cars in interchange if the connector is to prove a blessing and not a curse.

There will be no extensive application of connectors to freight equipment until through some agency all but one type of gasket face and one type of gathering device has been eliminated. But who ought to do the eliminating? The railroads, or the companies who have toiled and struggled, each in a different way, to solve a difficult problem for the benefit of themselves, the railroads and humanity? If no other method is developed undoubtedly the railroads, acting through the American Railway Association, eventually will settle the matter. But the task will not be altogether a pleasant one and there is little likelihood of any effective action until it is forced by compulsory public regulation.

The suggestion that the companies that have developed successful connector devices take up the task may appear unreasonable on casual inspection. But it will stand a closer examination. It is evident that before the connector can obtain commercial success all but one type of head must be eliminated. This may be accomplished by the arbitrary adoption of a standard by the American Railway Association or through a pooling or interchange of patents under pressure from that organization. The history of the development of the automatic coupler suggests the probability of the second solution. In that case no special advantage will be obtained by any organization unless it is perhaps by those with the least to offer. In the meantime, while waiting for the force of public opinion to bring the matter to an issue, the advantages of the connector are denied to the railways and there may be many lean years for those who have made it a practical device before its ultimate status is established. Since those most interested in the development of the connector must ultimately get together, is it not reasonable to suggest that they do so voluntarily, thereby greatly hastening commercial success for themselves, added safety for railway employees and the opportunity for the enjoyment of the economic advantages of a well developed connector for the railroads?

THE CHICAGO & ALTON SHOPS at Bloomington, Ill., which have been on a 3 day a week working schedule since December 28, 1921, were placed on a 5 day schedule, on February 1. Officers of the road state the change bids fair to be permanent.

New Books

Electric Arc Welding. By E. Wanamaker and H. R. Pennington. 254 pages. 167 illustrations. Size 5 in. by 9 in. Bound in cloth. Published by Simmons-Boardman Publishing Company, Woolworth Building, New York.

The average user of electric arc welding apparatus will find this book suited to his needs, for it treats the subject thoroughly in language that is easy to understand. The authors hold positions as electrical engineer and supervisor of electrical equipment and welding, respectively, on the Chicago, Rock Island & Pacific. They are leaders in making new and successful applications of the electric arc welding process and have an everyday working knowledge of conditions encountered in actual practice.

The subject matter in the book is confined to autogenous electric arc welding and no attempt has been made to cover electric welding in its broadest sense. The book covers descriptions of welding systems and their installations, phenomena of the metallic and carbon welding arc, training of operators, methods for applying metal to various types of joints and building-up operations, electrode materials used, weldability of various metals, weld composition, thermal disturbances of parts affected by the welding process, physical properties of completed welds, efficiency of welding equipments, welding cost, etc.

This information is that which is most in demand for practical purposes and the book is one of the unusual books that cover a scientific subject without the aid of mathematics. It should be found useful both as an instruction book for teaching the layman the principles of welding and as a reference book for the welding operator.

Principles of Railroad Transportation by Emory R. Johnson and Thurman W. Van Metre. 617 pages, 5½ in. by 8½ in. Bound in Cloth. D. Appleton & Co., New York.

Neither of the authors of this book needs any introduction to students of transportation. Dean Johnson's work, "American Railway Transportation," is a classic of railway literature and both collaborators are well known for their successful academic work in railway subjects. Indeed, the present work is an outgrowth of Dean Johnson's efforts to bring his "American Railway Transportation" up to date. In doing so he found that it was advisable to rewrite the entire work and "Principles of Railroad Transportation" is the result.

We know of but one other general treatise on transportation which follows railroad development through the passage of the Transportation Act. Of the two this book will be found in most respects the superior. It is with assurance, then, that the work is commended to the attention of every careful student of railway problems and to every railroad man who would have a broad view of the railway business as a whole.

The so-called "intelligence" test has become such a fad of recent years that many have doubtless ceased to see in it any real worth. Nevertheless, there is nothing which can so effectually bring home one's ignorance along some line in which he supposes himself to be well versed than a series of questions, admittedly fair, put to him by a recognized master. Therefore, aside from the timeliness of "Principles of Railroad Transportation" and its thoroughness, the list of questions on each chapter which appears in the appendix to the book is its most noteworthy feature. Schoolroom practice? Yes. But a method of helping the uninformed man of affairs to master the subject as well as to guide the college student who is seeking the same goal.

"What is meant by 'a service of a public nature'? Why did the federal government stop constructing and later stop aiding road building? What two mechanical features made Stephenson's 'Rocket' a success? What was the origin of the

Reading? Discuss the relative value of highways, waterways and steam railroads as means of transportation. How does the capital invested in railroads compare with that of other industries? What is meant by 'community of interest' and what is its effect? Would it be a wise policy to permit complete territorial consolidation of railroads? Discuss the various views as to the proper basis for railroad capitalization. Why do a third of American railway stocks yield no dividends? Discuss the origin and development of freight classifications. From what sources are the accounts regarding traffic, receipts and expenditures compiled? Is the railroad business a complete monopoly? What are the main provisions of the Interstate Commerce Act as amended to date?"—These are fair examples of the hundreds of questions appearing in the appendix.

At no time has an acquaintance with facts about our railroads been so important as the present. Every friend of the railroads knows that on every hand he hears charges which he is sure are false against the status quo. Armed with facts easily obtainable in a work of this character no one need let such misstatements go unchallenged.

Principles and Design of Foundation Brake Rigging.—121 pages, 74 illustrations. Published by the Air Brake Association, F. M. Nellis, Secretary, 165 Broadway, New York.

This book is unique in that it is the only comprehensive treatise that has ever been issued covering the fundamental underlying principles and their application to the design of foundation brake rigging. The first chapter is devoted to the theory of friction, the factors which effect its amount, the meaning of coefficient of friction and the friction between the brake shoe and the wheel and between the wheel and the rail. Following this is an explanation of what actually stops a railroad train and the sequence of events which then takes place.

The subject next taken up is that of leverage, first simple levers and then levers combined into various systems. The meaning of leverage ratio is explained and rules are given for calculating leverage with examples of their application to various types of foundation brake rigging. The effect of angularity of levers is also shown. Braking power and braking ratios are defined and reasons are given for the commonly accepted braking ratios for passenger and freight cars. The underlying principles having been explained, the subject of foundation brake rigging is next treated in detail. Some of the points covered are four and six wheel truck brakes, single shoe and clasp brakes, empty and load brakes, hand brakes, locomotive driver brakes, piston travel, efficiency of brake rigging and design of rigging members.

A chapter on retardation, calculation of train stops and retarding force necessary to control a train on a grade is followed by clear and concise definitions of the terms commonly used in discussions of braking and brake rigging. This completes a book which will be found to be an invaluable reference work to those who are interested in the vital subject of the application and use of air brakes on all types of rolling stock.

FRIDAY, THE THIRTEENTH of January, a passenger was six seconds late in reaching North Elizabeth Station and attempted to board a moving train. Unfortunately he came in contact with the fence at the end of the station platform, was dragged some distance and sustained injuries from which he died a few days later. This is the substance of a message, on a small slip of paper, which, by direction of P. L. Grove, superintendent, was handed recently to all passengers on suburban trains of the Pennsylvania Railroad between Elizabeth, N. J., and New York City. Other notes, concerning careless conduct by passengers, are being distributed in the same way.

Letters to the Editor

[The RAILWAY AGE welcomes letters from its readers and especially those containing constructive suggestions for improvements in the railway field. Short letters—about 250 words—are particularly appreciated.]

Lights at Highway Crossings

BOSTON, Mass.

TO THE EDITOR:

Every reader must sympathize with you in your effort (January 14, page 166) to get the automobile crowd to use fewer red lights; but what grounds have you for hoping for any success? None at all. People everywhere are so greatly in love with red that the use of red lights is likely to increase rather than diminish. Moreover, if you could induce autoists to try yellow they would make a bad job of it. They would come out, within less than a year, with a dozen different tints, from a common kerosene flame to glass as dark as a total eclipse of the moon.

The true remedy for your trouble is to have a light set from six to ten feet above the ground; one on each side of every crossing. Mr. Morrison of the New Haven road, and Mr. Rudd of the Pennsylvania, have started the right practice, as illustrated in your paper of September 3 and October 29, 1921.

When roads with such numerous and complicated problems as those which the New Haven and the Pennsylvania encounter, have decided on a style of construction or plan of procedure for general use, it is safe to say that their examples merit careful attention and study. These large roads cannot deal with such questions in a superficial way, and the rest of us should avail ourselves of the results of their investigations and experience.

P. S. C.

Col. Shaughnessy's Military Career

NEW YORK.

TO THE EDITOR:

Among the many communications which you will no doubt receive with regard to the sad death of Colonel Edward H. Shaughnessy, Second Assistant Postmaster General, I wish to record a few words. I was closely associated with him as a fellow officer of the 13th Engineers from May, 1917, until he returned to the States in September, 1919. In fact the Colonel, Major Thos. M. Horton and myself were the first three reserve officers to be attached to the 13th Engineers in the Monadnock building and on the Municipal Pier in Chicago, and received the first reservists.

The Colonel's rise from a lieutenant in the 13th Engineers to the position held at his death marks a course of consistent study, hard work and absolute fair dealing with his fellow men.

In the Monadnock building in May, 1917, reservists and reservist aspirants were coming in in droves, and the Colonel was assigned to the job of "hand picking" the kind of railway men which the service demanded for the future success of the 13th Engineers. As the regiment filled up, he was assigned to the acting command of Company E—the North Western Company—and proceeded to organize and drill this company to a point where it never had any superiors; moreover, it probably furnished more future officers to the regiment than any other company.

While the regiment at that time only consisted of two

battalions of about 550 men and officers, it was split up into three provisional battalions for the purpose of movement to France. The first battalion was sent out of Chicago July 19, 1917, and the second and third two days later, all three passing New York in the same order of separation. The first arrived in Liverpool, thence to Borden Camp, August 1, and the 2nd and 3rd battalions on slower passages nearly two weeks later. Our final consolidation at Borden, a parade in London, with the 12th, 14th, and 17th Engineers, also with the 11th Engineers at Borden Camp is a matter of history.

We finally landed in La Havre, August 17. Colonel Shaughnessy, Capt. Holmes, Major Walter Johnson and myself, with a selected detail of about a hundred amateur stevedores, were left behind to unload our engineering equipment from the boat and forward it to Chalons sur Marne. This consisted of about 60 wagon loads (wagons in the European sense). Colonel Shaughnessy called it the carnival company, and it looked more like it than anything else. The balance of the regiment went on ahead of us, we following in about 36 hours.

At Chalons the Colonel commenced immediately his hard work of organizing the regiment in a railway scheme of things, blended of course with the necessary military aspect. Three weeks later, when we finally arrived at our permanent stand with Fluery sur Aire as G. H. Q., nearly every man was ready to fit into the right place. The Colonel, I consider, was more to be credited in getting things going in an orderly railway sense than any other officer. And he did this with such diplomatic tact, that I do not think you could ever find an officer of higher or equal rank, in whom he inspired any jealousy. If there ever was such, the cold facts of the matter are just these—that any others who could have done the same thing were at the time thoroughly willing to "let Ed. do it," while those who knew nothing about the job were equally well pleased to see things going so nicely.

Following this, Colonel Shaughnessy immediately addressed himself to the task of getting up a simple English condensed translation, in one consolidated pocket edition, of four important French Railway rule books. This was later used by the Railway Transportation Corps throughout France.

Always studying, he made wonderful progress with the French language, which early in 1918 won him a place with the French Regulating Station at St. Dizier, where he immediately availed himself of the opportunity of mastering the fundamentals of "supply regulation." This schooling made him the man of the hour to be sent to Chateau-Thierry in July, 1918, where he did much good work in straightening out the confusion which was the natural consequence of that operation.

In September, 1918, he arrived at Is sur Tille, as General Superintendent of lines entering the advance section, and during the following six months took the same untiring interest in the success of the railway lines of communication in the advance section as had marked his past year's work. Here he utilized his extensive experience as chief train dispatcher and trainmaster, coupled with the nerve to put through any reforms or system that the circumstances required. And always with that same political tact, which aroused no one's envy. Many a man with possibly equal ability would and did fall down from lack of diplomacy.

In March, 1919, Colonel Shaughnessy was made Deputy Director General of Transportation for the Advance Section at Chaumont, having charge of the railway transportation for the evacuation of over a million men, which was successfully accomplished in April and May, 1919.

In June, 1919, he was made Director General of Transportation at Tours, and during June, July and August the complete evacuation from the SOS, and the surplus from

the Army of Occupation was accomplished to within a few casual detachments.

He returned in September, 1919, to his former occupation on the Chicago & North Western, leaving there some six months later to become Assistant Director of Transportation of the Petroleum Institute. The end of about a year's service with the Institute was marked by his selection for the post held at the time of his death.

As a transportation expert, Colonel Shaughnessy had as broad a vision as any man I ever knew. That was not all, for in most cases his nerve would successfully accomplish what his convictions indicated was necessary. But the best, and perhaps the most important of all, was his ability to do these things without exciting envy or friction.

F. A. PARKER,
Major, Eng. Res. Corps.

[Major Parker was at one time a train dispatcher on the Chicago & North Western, and later chief train dispatcher on the Missouri and Iowa divisions of the Chicago, Rock Island & Pacific. He was closely associated with Colonel Shaughnessy from May, 1917 to November, 1917; as lieutenant of the 13th Engineers; again as a trainmaster in the advance section from September, 1918, to March, 1919, and then as his first assistant, as Asst. Supt. Transportation, Advance Section, March to June, 1919; and finally as General Supt. Transportation at Tours, June to September, 1919.—Editor.]

Sleeping Cars Drastically Criticized

NEW YORK

TO THE EDITOR:

Your recent editorial "Are Upper Berths Too High?" and your description of new sleepers for the Canadian Pacific brings up again a question which occurs in the minds of many laymen—Why has there been so little real advance in sleeping car architecture?

It is true we have advanced considerably from the pioneer sleepers with their rows of shelves upon which human beings reclined.

We have designed the compartment and the drawing room, admirable in their way, but extravagant in their use of space, cost to the passenger, and operating cost to their owner. In the ordinary straight berth sleeper we have shown very little progress. This car is essentially what its forerunners were, saving numerous refinements of detail.

It is the detestation of travelers and a violation of all the nicer senses of modesty and comfort. A bed-chamber for both sexes in which the occupants are separated by flapping, ill-fastened curtains and in which these travelers are obliged to wriggle out of and into their clothing in a series of acrobatic movements, half of them climbing to their roosts by step ladders, is an institution which is hardly up to our twentieth century ideas of modesty or comfort.

It would seem that inventive genius which has evolved the "folding apartment" in our cities might overcome these crude and offensive conditions in our sleepers.

A series of extremely narrow staterooms with transverse berths and just sufficient floor space in which to stand on one's feet while dressing or undressing is one theory which it would seem might be put into practice by inventive genius. It would seem possible that such an arrangement might be worked out for single or double berth combinations and without a serious sacrifice of passenger carrying capacity. Solid partitions would of course replace the miserable makeshift of present curtains, and decency and comfort make a night journey a pleasure rather than the dreaded experience it is now.

Let there be some real progress in sleeping car interior layout.

TRAVELER.

The Improvement of Boiler Waters

OMAHA, Neb.

TO THE EDITOR:

Having read the article entitled "The Interior Treatment of Boiler Waters," by C. R. Knowles in the *Railway Age* of November 12, 1921, the writer has been interested in the various comments and criticisms that have appeared in subsequent issues. While being quite generally in harmony with the observations of W. H. Hobbs in the issue of December 10 and C. H. Koyl in the issue of December 24, there are certain phases of the subject as presented by Mr. Knowles that, for the sake of clarity, should be mentioned.

It is unfortunate that the discussions of anti-foaming treatment and anti-scale treatment were so interwoven in the original article as to result in possible misinterpretation.

The "hit-and-miss" treatment to which the author refers may be laid aside in this discussion as this is not boiler water treatment at all. Only the correct application of any method should be used in making comparisons, otherwise we might as well discuss the "hit-and-miss" method of train dispatching or train operation. The use of anti-foaming compounds is so different from the use of water softening plants and anti-scale compounds that this should be made clear. Anti-foaming compounds may be used as an auxiliary to either method of anti-scale treatment or it may be required on waters that receive no other treatment.

The following statement appears in the original article:

"An increased tendency to cause foaming is characteristic of all water treated with soda ash, and nearly every railroad using the lime and soda treatment finds it also necessary to apply interior treatment to the softened water to prevent foaming. It follows therefore that certain waters cannot be used successfully after exterior treatment without interior treatment to prevent foaming."

In this connection, certain facts concerning water treatment now under the direction of the writer, will be of interest. Seventy-five per cent of all the anti-foaming compound used on 9,500 miles of road is applied on a district 137 miles long where no water softeners operate and no anti-scale compound is used. The foaming is purely the result of natural water conditions. On one division having eight water softeners on the main line, the master mechanic in a report made on December 23 said: "It is not necessary to use anti-foam compound on this division. It is not very often that we have foamy boilers, and it is very easy for an engineer to give the boiler a blowing out." When two or three more water softeners have been installed on this division, in order to complete the treatment, the tendency to foam will be even less than at present, owing to the consequent reduction of concentration in the boilers.

It is true that "certain waters cannot be successfully used after exterior treatment without interior treatment to prevent foaming"; however, if anti-scale compound were applied to the same waters in the boiler, the foaming would be more severe. Anything that increases the concentration in the boiler and produces a sludge, increases foaming.

Mr. Koyl referred to boilers containing 1,000 grains of sodium salts per gallon without foaming. There are few boilers that do not have enough suspended matter to induce foaming in a water of this concentration.

The one fact that is paramount in Mr. Knowles' article is that anti-foaming compounds are a valuable adjunct to locomotive operation in bad water districts. This should not be confused with anti-scale treatment.

The railway water problem is too intricate and varies too widely on different roads for anyone to lay down rules for handling these problems with the expectation that they will be applicable in any number of cases. The problem is of such magnitude that it deserves careful study in every case by trained men who will attack all phases of the water problem with the view to effecting the greatest economies for the

road employing them. Other methods give but partial results and the old adage is as applicable here as elsewhere: "Anything that is worth doing at all is worth doing well."

WM. M. BARR,

Consulting Chemist, Union Pacific System.

Control of West Side Belt

PITTSBURGH, Pa.

TO THE EDITOR:

My attention has just been called to an article appearing in your issue of December 24, 1921, page 1263, entitled "Railroads May Not Evade Consolidation Provisions of Law," dealing with the recent decision of the Interstate Commerce Commission in Finance Docket 1108, an application by The Pittsburgh & West Virginia Railway Company for authority under Section 20-a of the act to issue certain additional capital stock to carry out a contract between it and the West Side Belt Railroad Company (controlled by it) for the purchase of the property of the Belt Company by The Pittsburgh & West Virginia Railway Company.

There was no attempt whatever on the part of this company to evade the consolidation or any other provisions of the Transportation Act. On the contrary, as a reading of the article in question will show, application was made under paragraph 18 of section 1 for authority to consummate the purchase, and that application was filed coincident with the application under Section 20-a to issue the stock.

The Interstate Commerce Commission held, upon the application under paragraph 18 of section 1, in Finance Docket 1107, that that section of the act was not applicable in the case of carriers already in operation. The commission might well have held—as it did in Finance Docket 1288, an application of the Soo Line to purchase the property of the Wisconsin & Northern, substantially similar in character, which was also made under paragraph 18 of section 1—that, while under its construction thereof that section was not applicable, the application would be considered and disposed of under paragraph 2 of section 5 of the act. This company is now making application under that section of the act and renewing the application in Finance Docket 1108.

The decision in Docket 1108 does not, as you seem to conclude, hold that a purchase of the character in question may not be consummated until the commission shall have formulated its general plan of consolidation contemplated by other paragraphs of Section 5. That question was not determined by the decision in Finance Docket 1108; but, unless the commission does find authority under paragraph 2 of section 5 to authorize purchases similar to that here contemplated (which it did find by its decision in the above-mentioned Soo application, Finance Docket 1288), none such could be made until after the general plan is formulated.

There is substantial doubt whether authority could be obtained under the laws of Pennsylvania to merge the two companies, inasmuch as The Pittsburgh & West Virginia Railway Company is a consolidated corporation of the states of Pennsylvania and West Virginia, and it is doubtful whether a domestic corporation may merge with a consolidated corporation. A consolidation of the two companies would entail reissue and relisting of the capital stock of the consolidated company, involving, with other incidents an expense in the neighborhood of upwards of \$200,000. For these reasons, apart from several other important ones, the plan of purchasing the property of the Belt, for which there is clear statutory authority, was decided upon, rather than merging or consolidating the companies; and this conclusion was reached before the transportation act was passed, and obviously without regard thereto, and so, necessarily, without any attempt to "evade" the provisions of that act.

H. E. FARRELL,

President Pittsburgh & West Virginia Railway and West Side Belt Railroad.

Increasing the Scope of Locomotive Cranes

Experiences of the Lehigh Valley Demonstrate that a Wide Range of Work Can Be Handled Advantageously

THE USE of mechanical equipment for all classes of railway work has been given a great impetus in the last three or four years, chiefly as the result of a distinct need brought about by the shortage of labor. This need has, in a way, abated and has been replaced by a more important one, that of doing the work at the lowest possible cost. This has resulted in the discovery of an increasing number of purposes for which different classes of equipment are adapted and has emphasized the fact that many forms of work heretofore thought to be solely in the realm of hand labor can be performed cheaper, better and quicker with machinery. The locomotive crane has been one

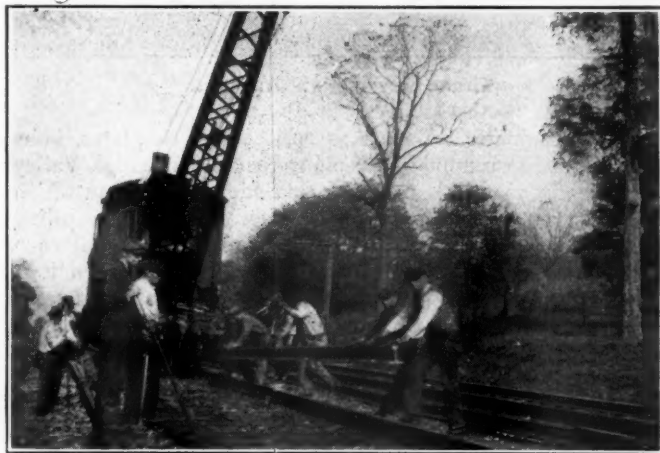


Unloading Rail with a Fleet of Locomotive Cranes

the Lehigh Valley has been, however, that there are so many tasks for which a locomotive crane can be utilized to advantage that the question concerned with their use has become one not of possible idle time but of enough cranes. In spite of the large number of cranes which that road employs, there is nearly always a waiting list of work. Thus the overhead on a crane is re-

duced to the minimum so far as any individual task is concerned, with a resultant economy in the performance of that task.

The cranes are used by the engineering, maintenance-of-way, mechanical, operating, traffic and other departments to advantage. In general they are assigned regularly in varying numbers to each of the divisions by the engineer maintenance-of-way who is responsible directly and indirectly for the care and operation of all cranes on the system. When assigned to the divisions they become a special charge of the division engineer whose duty it is to see that they are kept employed constantly and that an equitable distribution is made to the departments in need of them. This officer makes a weekly report to the engineer maintenance-of-way showing the number of cranes on the division, the assignment and location of each one and the class or classes of work on which they have been employed during that period. This information from each division office is then compiled in the office of the engineer maintenance-of-way into a system report. When calls are made for additional cranes



Swinging in New 136-lb. Rail with a Locomotive Crane

of these pieces of equipment which study has shown to be readily usable for a wide variety of purposes. On the Lehigh Valley, for instance, it has been profitable to use a larger number of cranes and no better evidence can be presented of the scope of such machines than the fact that this road has 47 locomotive cranes in service on 1,449 miles of line. This is probably more locomotive cranes per mile of road than any other road in the country.

Cranes Are Constantly in Demand

Where mechanical equipment is in use, the big factor to be considered, if strict economy is to be had, is the question of possible idle time. Each crane, for instance, represents an investment, the interest charge on which must be apportioned and carried as a part of the cost of the work which the crane performs. Other items also, such as depreciation, for example, must be taken into consideration and where the idle time is large they may possibly eat up any savings effected in doing a particular class of work which would otherwise accrue to the benefit of the road. This is a possibility which has acted as a deterring influence and has prevented many roads from securing enough equipment to carry out efficiently and economically certain phases of railway work which are more or less seasonal. The experience of



Locomotive Crane Handling Bridge Ties

on a division it is possible for the engineer maintenance-of-way to make the most economical and satisfactory assignment through the aid of the information which is thus placed in his hands every week.

The feature of particular interest in this article is the list of uses for locomotive cranes. Each item is, in the majority of instances, representative of a general purpose, which may, and often does, contain a number of specific uses which differ somewhat but may still be included under the one head. Practically no work is undertaken that is not preceded by a study to determine how much of it can be performed effec-

tively with cranes. The experience of the road indicates that the more the employees use the cranes, the more uses they find for them, and that this experience is not confined to any one department. In general the items listed are self-explanatory and may well serve as a guide to any road which has found it difficult to keep its cranes working steadily. A few of the items are so interesting that they deserve a little more complete treatment. For that reason additional details are given here.

The question of laying rail by locomotive cranes is fairly well known, the method having been described in detail in the December 10, 1920, issue of the *Railway Age*. A more recent development is the utilization of cranes equipped with clam shell buckets for cleaning ballast. With this method a gondola with a large screen mounted on it, is placed next to the crane. The ballast is forked out from between and down to the bottom of the ties. This foul ballast is piled in the track center, where it is picked up by the bucket and dropped on the screen. The dirt falls through and the cleaned ballast runs down the screen and, by means of chutes, is returned either to the track center or between the tracks. The ballast between the tracks is cleaned down to a depth of from 12 in. to 14 in. below the bottom of the tie.

Handling Bulk Freight to Release Cars

The Lehigh Valley has utilized locomotive cranes in varying numbers for the loading and unloading of bulk freight from open top cars. Generally this has been in place of or where gantry cranes are not already installed, but it has also been found advantageous to use them even where there are other facilities. The greatest use of cranes for freight handling purposes has been on the New Jersey waterfront at Black Tom—Pier 7—where lighterage freight is usually handled. During the period of heavier traffic it was not uncommon to have three or four cranes working regularly. The material handled covered all classes, from pig iron, billets, and rails to boxed automobiles and even loose sulphur.

As a measure of relieving congestion the cranes were employed extensively for unloading material from cars to open storage plots until, for instance, the necessary ships for loading were available. This allowed a quick release of the cars for other purposes. When ships were ready the cranes were run in again and the material reloaded into cars, brought to pier side and often placed directly on the lighter or whatever was there to receive it. Ordinarily the cranes unload the freight near the string piece where the floating hoists can reach it easily. In performing this and other work it is quite common for a crane to switch one or two cars by its own power. Commodities such as sulphur are loaded into box cars through the medium of a hopper and spout, the crane dumping the product into the hopper. Practically the only labor required outside of the crane operators is that of the men who stow it away in the car.

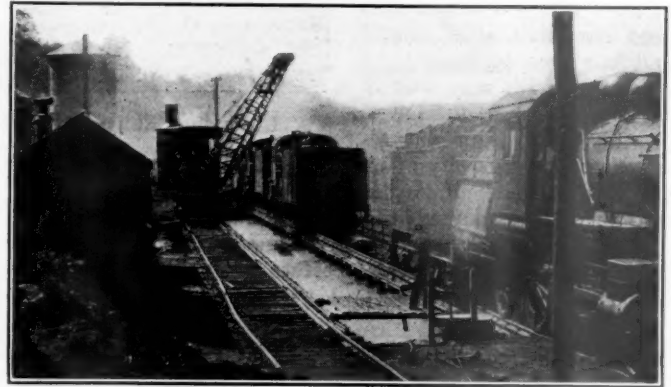
Crane Takes Place of Work Train

There is usually a variety of work around yards, shops, storehouses, and even out on the line, that ordinarily requires the service of a work train. Because of the self-propelling feature of the locomotive crane, it has been found possible to substitute it for a work train in a large number of instances. At the Lehigh Valley's shops and engine terminal at Sayre, Pa., for example, it is used extensively in this way, handling two or three cars with ease, even on grades. Loaded cars are spotted and often unloaded by cranes while the reverse is also carried out with equal satisfaction. One common way in which the crane is utilized for two purposes is in the cleaning up of refuse, scrap and other debris in yards and terminals. In this work the crane pulls or pushes the open top car or cars along by its own power, loading the refuse into them by means of a clamshell bucket and then moving along to the next pile to be loaded. Work train ser-

vice is thus eliminated entirely while an added advantage is gained by the fact that the crane is more flexible and faster than hand labor.

Work train service has been greatly reduced in connection with the renewals of bridge decking through use of the locomotive crane. In this work cranes are used to pick up the old ties, loading them on a flat behind the crane and, in turn, picking up a bundle of new ties from the same car and depositing them in the proper position for insertion. Rail, old and new, is likewise handled by the cranes with the result that this work is speeded up materially.

While this method is in a way a form of material handling, the list shows several more specific instances, one of the most interesting of which is the one referring to the load-



Crane Serving an Ash Pit

ing of track materials, such as splice bars, tie-plates, bolts and spikes. In common with many roads, the Lehigh Valley assembles its materials in designated store yards from which it is distributed along the line when needed. In piling splices, tie-plates, etc., in the yards, care is taken that each pile is kept within certain limits of size. Thus when it is necessary to load splices, for instance, a clamshell bucket handled by a crane is dropped over the pile and the splices picked up almost 100 per cent clean. The few that are missed are loaded into the bucket by hand after which it is unloaded into a car as usual. Kegs of spikes are handled in the same manner, the crane easily picking up one keg at a time, without damage, with the aid of a bucket. As may be surmised, the time saved in loading a car is large.

Numerous other items contained in the list which follows are equally and perhaps even more interesting, depending upon the viewpoint and the department under consideration, as for instance, the one dealing with the handling of signal bridges. It is, however, practically impossible to go into detail on all of the items and it is not necessary for the greater part of them are self-explanatory.

We are indebted to G. L. Moore, engineer maintenance of way of the Lehigh Valley, his staff at headquarters, and to all the division engineers for the information contained in this article.

Uses of Locomotive Cranes on the Lehigh Valley

Maintenance-of-Way—

- (1) Laying rail.
- (2) Cleaning ballast by means of large screens mounted on cars and $\frac{3}{4}$ yd. buckets.
- (3) Loading, unloading and placing tie tamper air compressor outfits.
- (4) Loading ties for local or other delivery by means of slings.
- (5) Handling all sorts of scrap, refuse, sweepings and cleanings, etc., in terminals and yards.
- (6) Driving piles, being equipped with steam hammers.
- (7) Handling frogs and switches at frog shops.
- (8) Removing old and laying new frogs and switches in yard and other tracks.
- (9) Handling treated timber at the company treating plant at Manville, N. J.
- (10) Loading, unloading and placing snow fencing panels in final position.
- (11) Loading tie-plates, splices, bolts and kegs of spikes. Used in connection with a bucket.

- (12) Rocking turntables when necessary to replace or change centers.
- (13) Wasting dirt in case of slides.
- (14) Ditching along right-of-way, or in other places as desired.
- (15) Cleaning or policing the right-of-way.
- (16) Handling steel for bridge renewals and erection.
- (17) Distributing stone ballast where it is uneconomical to distribute it by opening hoppers.
- (18) Cleaning snow out of cuts.
- (19) Setting up highway crossing alarms.
- (20) Cleaning off tunnel portals—men shoveling into bucket.
- (21) Dredging around pontoons and float bridges.
- (22) Raising tracks, sidings, etc., either for a permanent raise or in stocking coals, etc.
- (23) Shifting track or turnouts, etc., to new locations.
- (24) Picking up, loading or shifting small buildings.
- (25) Tearing down and distributing timbers in obsolete coal trestles.
- (26) Raising small bridges where it is necessary to secure greater clearance. Used in place of jacks.
- (27) Handling bridge timbers such as decking, ties, etc. Used to remove old and place new timbers in position.
- (28) Erection of highway crossing bridges in connection with an extension of the boom.
- (29) Lining tunnels. Steel sections carried in on top of boom and placed in position.
- (30) Setting up stand pipes, water tanks, and pipe lines, etc., in water service work.
- (31) Unloading and placing various classes of pumps. If unable to move the material into the building and place it in position it is moved as near to final position as possible.
- (32) Cleaning out suction wells for fire protection pumps.
- (33) Excavating trenches in water service and sewer work.

Construction—

- (1) Use in construction where bents and materials are framed in advance, moved in and placed in position by cranes.
- (2) Laying new track on branch lines and sidings. Ties handled in bundles. Rails laid and cranes moved ahead.
- (3) Placing pre-cast concrete slabs in bridge and other work.
- (4) Setting up steel stacks of all dimensions and sizes up to the capacity of machine in tons, etc.
- (5) Loading, distributing and installing reinforced concrete and other types of culverts.
- (6) Erecting buildings and sheds, handling material, placing timbers or steel trusses, etc.

- (7) Picking up and loading gravel and sand at company pits.
- (8) Distributing material and charging mixers in concrete work.
- (9) Excavating for bridge piers and abutments.
- (10) Digging for and placing cribbing and filling same.
- (11) Grading for industrial tracks and other sidings.
- (12) Grading approaches for overhead highway crossing bridges.
- (13) Hooking up gears and frames at transfer bridges.
- (14) Loading, unloading and placing steam boilers, etc., and drawbridges and power houses.
- (15) Picking up, distributing and placing rip rap in the construction of retaining walls.

Operation—

- (1) Rerailing cars in yards, or other work.
- (2) Handling freight at waterfront terminals.
- (3) Handling sand at terminals, filling bins, etc.
- (4) Wrecking work such as picking up and throwing aside or loading refuse, freight, coal, burnt timbers, car parts, etc., up to the capacity of the machines.
- (5) Handling ashes at engine terminals in connection with various types of pits.
- (6) Stocking coal.
- (7) Coaling engines.
- (8) Spotting cars around company shops and yards.

Mechanical—

- (1) Handling heavy material at locomotive shops with or without magnets.
- (2) Handling wheels and axles, mounted or unmounted, in varying amounts at car shops and other locations.
- (3) Dismantling and removing old condemned cars from trucks.

Signal and Electrical—

- (1) Loading and placing concrete telephone booths, battery wells, etc.
- (2) Pulling up and loading or unloading telephone, telegraph poles, etc.
- (3) Setting up telephone and telegraph poles, signal brackets and bridge warning signs.
- (4) Erecting or moving signal bridges. New foundations made ready and bridges picked up as a unit where possible or in sections otherwise and moved to new location.

Miscellaneous—

- (1) At the general storehouse for handling timber in the lumber yards.
- (2) Handling pig iron and scrap by magnets at outlying points where regular electric gantry cranes are not installed.
- (3) Unloading coal at stations and other company buildings.

Plain Facts for Rock Island Stockholders

Chairman of Board Hayden Tells Them About Valuation and Other Public Relation Problems

CHAIRMAN Charles Hayden of the board of directors of the Chicago, Rock Island & Pacific recently sent a letter to the stockholders of that system in which he discussed with them frankly some of the more important problems confronting the railroad, and particularly those associated with federal regulation. Extracts from his letter follow:

"The paramount importance of the transportation problem makes it proper again to call to your attention certain phases of that problem directly affecting your interest as stockholders of this company, and as citizens of the United States.

The Federal Valuation

"After six years' work the tentative valuation of your company's properties was announced by the Interstate Commerce Commission in September at approximately \$335,500,000, as of June 30, 1915. This is for carrier property only.

"In order to make a comparison of the value announced by the commission with the company's present capitalization, it is necessary to exclude the value of certain leased lines whose capital stock is not entirely owned by this company and to bring the figures down to date by adding additions and betterments since the date of valuation. So stated, the comparison is as follows (see table in next column):

"This valuation, officially determined by the United States government, refutes for all time and for all purposes the suggestion sometimes made by the uninformed, that this company is overcapitalized. We regard the valuation established by the commission as being much less than the actual value of the property, and have filed the protest contemplated

by law in the hope that, upon a hearing, the commission will substantially increase its valuation; but, even on the commission's minimum basis, this valuation must be taken

PHYSICAL PROPERTY AS OF JUNE 30, 1915, AS ANNOUNCED BY COMMISSION

(a) Carrier property (C. R. I. & P., C. R. I. & G., and Morris Terminal)	\$335,539,013
(b) Non-carrier property	5,745,895
Total	\$341,284,908

From the foregoing should be excluded the values of the following leased lines, which are not controlled through the ownership of entire capital stock:

Keokuk & Des Moines	\$3,464,958
Peoria & Bureau Valley	1,650,000
White & Black River	700,000
	5,814,958

Balance, excluding these lines

There should also be deducted cash and materials on hand June 30, 1915, as found by the commission

Remainder, representing physical property owned directly or through stock ownership, as of June 30, 1915, as found by commission

Add: Additions and betterments July 1, 1915, to June 30, 1921

Cash and materials, June 30, 1921

Total, June 30, 1921

LIABILITIES JUNE 30, 1921, ACCORDING TO COMPANY'S BOOKS

Long term debt

Loans and bills payable

Preferred stock

Total capital liabilities ahead of common stock

Common stock outstanding

Total capital liabilities

Amount by which minimum value as found by commission exceeds total capital liabilities as of June 30, 1921

Amount of equity represented by common stock (difference between property values of \$388,277,342 and total of senior obligations)

Same per share of \$74,482,523 of common stock

\$113.16

as establishing a property value behind our stocks and bonds, much in excess of their par value.

Rate of Return Under Transportation Act

"On account of the general business depression which has existed in the country during the last year, the rates fixed by the commission have failed by a very substantial sum to produce the return contemplated by the Transportation Act. For instance, the earnings of your property for the year ending September 30, 1921, were \$8,890,000 short of being six per cent upon its property investment, and your property's earnings were better than the average in the group in which it was placed. Notwithstanding this fact, many substantial reductions in rates have been made by the carriers in the country, partly under order of the commission, and partly voluntarily, with the idea that a reduction in rates would in some degree promote the movement of traffic. Unless the effect of these rate reductions is counterbalanced by an increase in traffic, it is reasonable to anticipate a substantial reduction in the company's net revenues in the coming year, because the reductions ordered by the commission in one case alone (the hay, grain and grain products case, I. C. C. docket No. 12929) will amount in the case of the Rock Island to \$3,500,000 a year, all of which comes out of net revenue. Consequently, it is of the utmost importance to you, as stockholders of this company, as well as to the public at large, that the commission shall not reduce the rate of return below the existing standard. In view of the fact that the government itself is now charging us six per cent upon money loaned to us for additions and betterments, it would seem that the commission will have little ground for reducing this rate, but nevertheless it is being urged to reduce it. A decision is expected about March 1.

"Of equal importance is the danger that Congress may repeal that section of the Transportation Act which imposes this duty upon the commission. While the responsibility of fixing rates to provide a fair return was on the commission even under the old law, there was no specific mandate to this effect, and it is very important that the positive direction contained in the Transportation Act should not be disturbed.

Labor Conditions

"The great obstacle to a further reduction of rates is the cost of labor. The Labor Board has made substantial reductions in the last few months, which were anticipated, however, in the reductions of rates mentioned above. The carriers now are proceeding to ask for additional reductions, which will have to be made if the labor cost of transportation is to be reduced to a basis comparable to that in other industries. For instance, unskilled labor is now costing the railroads approximately 40 cents an hour, which is a uniform rate for all portions of our system; whereas at many points on our road the current rate for unskilled labor in industrial occupations is 22 cents to 30 cents an hour. The Labor Board also has eliminated some of the burdensome rules left in force by the Railroad Administration, though not to the extent hoped for by the carriers. Many classes of work are still performed by unskilled labor, classified as mechanics or in other classifications taking higher pay.

"We must not be understood as objecting to fair pay for our employees; but the country is in a process of post war liquidation. Railroad investors, as a class, received probably less of an increase in their return as a result of high war prices than any other element in the community, whereas railroad labor was very handsomely treated by the government acting through the Railroad Administration. The stockholders are now doing their full part in the process of deflation by accepting substantial reductions in income, and it is only equitable that labor, which profited so largely, also should contribute to the process.

"There has been much discussion in the public press of

the Labor Board and its usefulness. Your directors are firmly of the opinion that the Labor Board is an excellent institution, because it places labor costs under the control of a public body. Sooner or later the public will come to realize that its decrees have the force of law, and public sentiment will not support an attempt to settle any labor controversy otherwise than through its processes. In addition, the government itself cannot in fixing rates ignore the wage costs determined by a tribunal of its own making. The whole Transportation Act is new, and it can hardly be said to have had a thorough trial; and particularly is this the case with these provisions relating to the Labor Board.

State-Made Rates

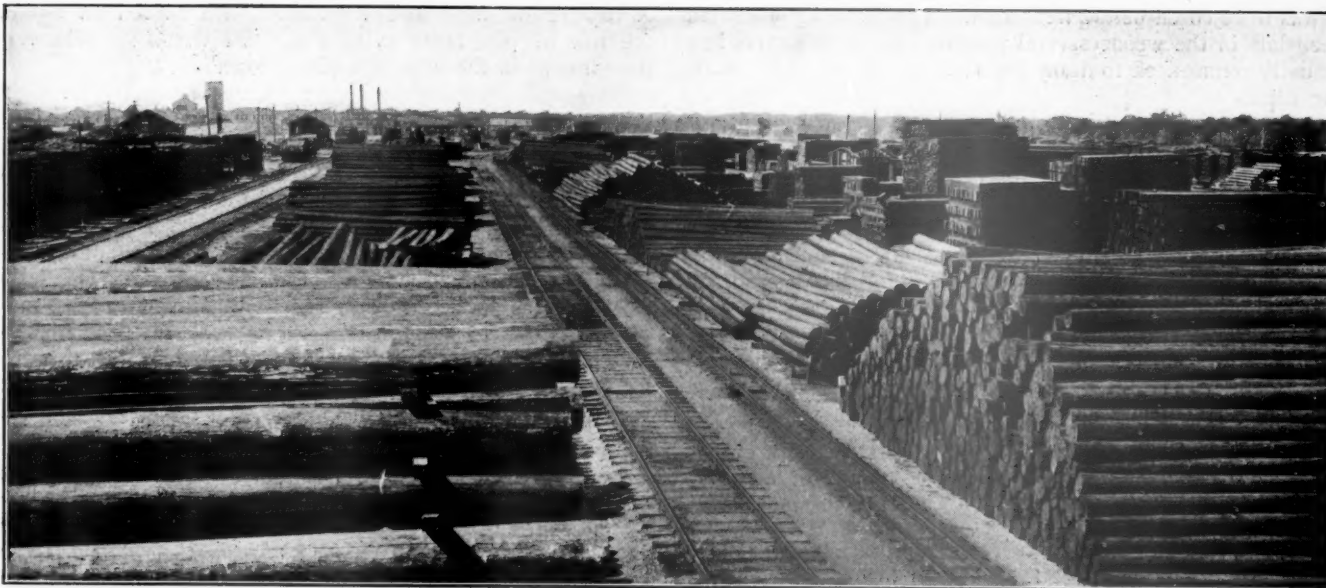
"A bill is pending in the United States Senate (Senate Bill 1150), introduced by Senator Capper of Kansas, which, if passed, will undo a large part of the good accomplished by the Transportation Act, and constitute a long step backward in railway regulation. Its purpose is not only to repeal the section of the Interstate Commerce Act requiring the commission to fix rates at a prescribed level, but to deprive the Interstate Commerce Commission of all jurisdiction over rates within a state, no matter how seriously such rates may discriminate against the interstate rates. The effect would be to give every state commission practically exclusive jurisdiction over rates within the state, with no remedy whatever to the carriers to protect the revenues provided by the Transportation Act, and a result which may be forecast by reference to the long series of adverse state regulations beginning in 1907, and ending in the cataclysm of federal control.

Partners Rather Than Creditors

"We call these things to your attention, because it is to your interest as a stockholder, as well as to the interest of the public, that railroad credit shall be maintained. It is essential that the public shall have such confidence in the railroad managements and in the way in which the railroad problem is being handled by the government, that it will be willing to provide on favorable terms the new capital, which is necessary not only to protect the existing investments but to finance the expansion of our transportation system.

"The Rock Island should be financed by increasing the number of its partners rather than by increasing the number of its creditors, that is, with stock rather than with bonds. This means that we must be allowed a more liberal basis of earnings than a maximum which merely yields the cost of operation plus the going rate for borrowed capital and leaves the risk with the investor. It is obvious that such a limited return will not allow any railway company to attract necessary capital in competition either with tax-free public securities or with industrial stocks which offer equal security with a much larger opportunity for profit, no greater risk and a freedom from the depression of constant regulation. This problem is of vital and immediate consequence to every stockholder, for so long as the Rock Island must finance its improvements and extensions through a constant increase of its debt, carrying a fixed charge, both the market value of your holdings and the return, which you can hope to realize thereon, are bound to diminish.

"These elementary propositions are so simple that they are often forgotten by those who are charged with public duties concerning the railroads, and yet the public will suffer most if they are ignored. With every phase of a railroad's operations and financing regulated to the point of suffocation and with the public interest overguarded at every turn, it ought to be clear to those in charge of our national policies that there can be no danger in treating a railroad like any other business enterprise and allowing it a return which will attract new capital; and that the failure to do this means the failure of private ownership and the breakdown of our transportation system."



Creosoted Piling at the Somerville Plant of the Santa Fe

The Story of Creosoted Trestles on the Santa Fe*

This Road Now Has 370,515 Track Feet of Wooden and Steel
Bridges with Ballasted Decks

By A. F. Robinson

Bridge Engineer, Atchison, Topeka & Santa Fe System, Chicago

THE FIRST creosoted piles were used in 1875 in an open deck pile bridge built across Galveston Bay. The first creosoted ballasted deck pile bridges were put into service on the Santa Fe late in 1899. The same season creosoted timber flooring was used on a ballast deck steel bridge at Los Angeles. When the joint track elevation bridges were built in Chicago, creosoted timber flooring was used for supporting the ballast. Following 1900 the use of creosote increased very rapidly and by 1908 almost all the timber used in bridges was creosoted.

From 10 to 12 lb. of creosote per cu. ft. of timber was first used for structures on land or in fresh water. For structures in salt water a much heavier treatment was required. At present piles for marine service receive a light steaming and then from 20 to 25 lb. of creosote per cu. ft. of timber is forced in, or all the creosote the timber will take. For about 10 years, southern pine has been treated by the full cell process, some 14 to 16 lb. of creosote per cu. ft. of timber being used. At all of the Santa Fe treating plants southern pine for land structures is air seasoned and then creosoted without steaming. When we commenced using creosoted material the treating was done at commercial plants and the timber was steamed.

Our bridge list as of January 1, 1921, shows the following single track lengths of bridges with arches, boxes and pipes omitted but T-rail bridges included:

498,757 lin. ft. open deck timber bridges
222,520 lin. ft. ballast deck timber bridges
120,307 lin. ft. open deck steel bridges
147,995 lin. ft. ballast deck steel bridges
2,411 lin. ft. reinforced concrete bridges

991,990 lin. ft. all bridges—equals about 188 miles.

*Abstracted from a paper presented before a joint meeting of the Western Society of Engineers and the American Wood-Preservers' Association, at Chicago, on January 25, 1922.

Almost all of the ballast deck steel bridges have creosoted timber floors.

The creosoted ballast deck timber bridges from 16 to 20 years old seem to be in perfect condition and give promise of being good for from 15 to 20 years more. These may, therefore, be considered as permanent structures. Some 38 per cent of all our bridges are ballast deck and almost 50 per cent can be termed permanent structures. For main lines alone, the percentage of ballast deck bridges is now 68 per cent. No open deck bridges of any kind have been built on the main lines during the past 10 years, except after wash-outs or burnouts.

Early Difficulties

Creosoted timber bridges had not been in service very long before we found there were many things to be learned about cutting, handling and curing before treatment; and also about handling the treated material and building the bridges. During 1909 and 1910 there were many complaints about rotten piling on the Beaumont division, which extends from Somerville, Tex., to Longview, Oakdale, Beaumont and Port Bolivar. In this territory the timber seems to be affected more readily by decay than in any other part of the country traversed by the system lines.

A few miles east of Cleveland, Tex., we have what is known as an experimental section, where all kinds of treatment on ties, fence posts, etc., are tried out. This section was taken because the soil and climate seemed to be adapted especially to produce rot in both treated and untreated timber. On this section I found at least 2,000 piles that were rotting very badly. The piling and timber used had been treated in commercial plants between 1900 and about 1907. Up to that time no rules had been made covering the time the material might be left in the woods after cutting or the time

it was to be cured before treating and I think many piles had been left in the woods several months and the material had actually commenced to decay before it was taken to the treating plant.

Piles after being driven in the bents, are sawed off for capping and our plans call for these freshly cut surfaces to receive a heavy treatment of hot creosote before the caps are applied. Notwithstanding this we found a large per cent of the piles were beginning to fail at the caps. There would be an outer layer or ring of creosoted sap wood which was good, but inside this there would be a ring of untreated sap wood which was rotting very rapidly. In many cases a great deal of load was being carried by the outer creosoted ring of sap wood and but very little by the heartwood. We found a good many cases of rot starting at or near the ground surface.

Another source of trouble was the driving of the piles. I found a good many cases where the heartwood had been broken loose from the sap. The ordinary steam hammer has the lower end about 12 in. in diameter projecting through the driving block and striking the pile. A circle 12 in. in diameter has a little more than one-half the area of a 16-in. circle and only about two-fifths the area of one 18 in. in diameter. From this you will note the blow from the hammer was being delivered into the pile over an area of less than one-half its surface. The skin friction on the outer surface of the pile would hold it up and the hammer would drive the heartwood loose. This was overcome by providing a driving head 18 in. in diameter which rested squarely on the head of the pile and so arranged that the blow from the hammer must be distributed over the entire surface of the pile.

Irregular Penetration

When these piles were cut out, the cross sections were examined very carefully and it was found that the creosote had penetrated very irregularly. On one side the treatment would be almost as thin as a sheet of paper and on the other side it might be two inches thick, the thickness of treatment varying all around the surface of the piling. We figured that this was due to moisture in the piling, which resulted from the steaming and the improper seasoning. At our own treating plant at Somerville all material except that used in marine work is carefully air-cured and receives no steaming of any kind. As the result of this handling, we have been able to get a very uniform penetration of the creosote. On the other parts of the Santa Fe system we have had very few piles failing at the caps.

Examination of the stringers in ballast deck bridges where steaming was done in treatment showed a similar condition to the piling, but it was not so extensive. In a very few cases outer stringers were decayed on the upper surface, as a result of the irregular penetration of the creosote.

Close attention is necessary in the air-seasoning of timber piling. If the sap has commenced to turn or sour, the treating will not be effective. It is probable that different curing rules will be required in different sections of the country where the moisture conditions vary.

As the result of our trouble from the rotting of piles at the caps we made an extended test on a field treatment of piles when cut for caps. With the first apparatus we were able to get about 3/8-in. end penetration of the creosote. Several first class creosoted piles were cut into lengths of about three feet and also a similar number of untreated piles which were reasonably well seasoned. A part of these short creosoted specimens received the end treatment with our pressure apparatus. The other samples were painted with various kinds of preserving material and also several kinds of "R I W" paint. After the coatings had properly dried, these short pieces of piling were set up in a trench in the ground on the right-of-way two miles east of Cleveland, Tex. These pile butts were set in an exact line and at the same elevation.

A cap 12 in. wide and 4 in. thick was placed on top of the row of pile butts so that the test would be relatively the same as in the bent of a pile bridge.

These pile heads have been examined annually for eight years past. At present the samples of creosoted pile having pressure treatment on the ends and several of those receiving brush coatings on the ends are still in good condition. These investigations lead me to feel that a brush coating of hot heavy creosote, of Reeves' Wood Preserver and Toch's "R I W" paint will protect the freshly cut head of a creosoted pile for a long time. I am not as yet certain whether it will be necessary to use the pressure treatment for the ends of piles, since the brush coating seems to be giving extremely good results thus far and the application of this brush coating will cost considerably less than the pressure treatment.

Investigations made seem to show that the following rules must be adhered to absolutely in handling treated timbers:

1. Treated timber must not be cut, bruised or handled in a rough manner. Grab hooks or dogs should not be used in handling the material, unless the holes made by the hooks are carefully plugged with creosoted pins.
2. The driving of piles must be done with a hammer which will not split them or break the sap loose from the heartwood.
3. Any cut surfaces or bored holes must be carefully treated with hot creosote and holes plugged.
4. Where solid stringers are used in ballast deck bridges without any cross planking it is necessary to make end cuts on some of the sticks on account of the variation in panel lengths of bridges due to driving of piles. These freshly cut ends must be thoroughly coated with creosote before the stringer deck is placed.

Treating Plants

The Santa Fe has built four treating plants. In 1885 a plant was opened at Las Vegas, N. M., but it burned down in 1908. In 1898 a plant was opened at Bellemont, Ariz., and this burned down in July, 1906. Both of these plants were designed for the zinc chloride treatment although some creosoting was done. The buildings for these two plants were temporary wooden structures of great fire hazard.

The present plant at Somerville, Tex., was opened in 1907 and the Albuquerque plant in 1908 or 1909. The buildings for these two plants are reinforced concrete, thus reducing the fire hazard to a low figure. Both of these plants were designed exclusively for creosoting. During the late war period and for nearly two years thereafter ties were treated by the zinc chloride process, but all the bridge timbers and the piles were creosoted. The total output from the four treating plants above noted is as follows:

	Ties	Timber, board feet	Piling, linear feet
Las Vegas.....	6,221,598	22,575,490	790,729
Bellemont	2,123,519	9,607,215	224,521
Albuquerque	7,346,245	20,067,932	512,580
Somerville	43,423,230	213,411,285	8,172,169
Total.....	59,114,592	265,661,922	9,699,999

Some 380,300 linear feet of the above piling was treated by the Rueping process at the Somerville plant in 1906 and 1907.

A great deal of creosoted Oregon fir timber and piling has been used on our coast lines. This material was treated in commercial plants in Oregon and Washington and delivered to the railroad via water at National City, Cal., and San Francisco.

A good deal of timber has been used for the floors in ballast deck bridges. When we figure interest on the excess cost of the ballast deck over the open deck structure and also the cost of maintenance we can show a very interesting saving from the use of the ballast deck bridges. A feature of the ballast deck bridge is the very low maintenance cost. When the track has been thoroughly bedded and properly lined and surfaced, almost no further expenditure is required during the life of the track tie. We have bridges above 100 feet in length which we have run from three to seven years without receiving any attention other than the lifting of a few joints at very rare intervals.

W. G. McAdoo Defends Railroad Administration

Concluding Testimony, the Major Portion of Which Was Abstracted
in Last Week's Railway Age

IN THE *Railway Age* of February 4, page 327, was published in abstract the testimony of W. G. McAdoo, formerly director general of railroads, defending his administration before the Senate committee on Interstate Commerce. Because of the length of Mr. McAdoo's statement it was impossible to include in last week's issue all the matters of importance covered by him. Essential parts of the testimony omitted last week are, therefore, given herewith.

Mr. Kruttschnitt's Charges

Mr. Kruttschnitt, in an article published in the *Atlantic Monthly* for January, 1922, is even more specific than in his testimony before this committee in declaring that the government's promises to maintain "the roads in as good repair and as complete equipment as when taken over, were completely ignored" and says that "renewal of rails, ties and ballast was skimmed to the danger point, and the equipment, scattered all over the United States, had been given scant attention and was in the worst condition ever known."

The charge that the ties were "skimmed to the danger point" is flatly contradicted by the facts, especially so far as the Southern Pacific is concerned. The tie renewals of the Southern Pacific for 1917 were 3,186,447, while for 1918 they were 3,981,107. In other words, during 1918 the government laid 794,660 more ties on the Southern Pacific than Mr. Kruttschnitt laid in 1917, an increase of 25 per cent.

Statements have been made, I believe, before this committee to the effect, or at least it seems to have been assumed, that the government was under obligation to put back into the track each year as many new ties as represented the average tie replacements made by the railroads during the three years preceding federal control. There is nothing in the contract to justify this assumption or assertion. The government's obligation was to expend "such sums" * * * "as may be requisite in order that such property may be returned to the companies at the end of federal control in substantially as good repair and in substantially as complete equipment as it was on January 1, 1918,"—the cost of labor and materials being equated. It would have been foolish to assume an obligation to replace as many ties and rails in a piece of track as represented the average for a three-year test period, because it might have been unnecessary to do so whereas expenditures in other directions necessary to maintain the properties in substantially as good condition as when received, might have been desirable and as to these the director general was given discretion.

Assuming, however, for purposes of illustration, that it was the duty of the Railroad Administration to put in as many cross ties and new rails as were represented by the average of the so-called three-year test period, let us judge from the facts how well the Railroad Administration complied even with this fictitious requirement.

For the whole country, from the annual reports of the Interstate Commerce Commission for Class I railroads, there were laid during 1918 only 2,930,891 or 2.3 per cent less cross ties on previously constructed tracks than in 1917, while there was an increase in the number of switch and bridge ties laid in previously constructed tracks of 14,401,163 feet, or 6.9 per cent. In the light of these facts, what becomes of Mr. Kruttschnitt's charge that ties were "skimmed to the danger point" during federal control?

Mr. Kruttschnitt's charge that ballast was skimmed on the railroads is also contradicted by the facts because, in 1918, the Railroad Administration applied on Class I Railroads, 18,863,344 cubic yards of ballast while in 1917 the corporations applied, on Class I railroads, only 18,262,503 cubic yards of ballast. Thus the government applied 600,841 cubic yards more ballast in 1918 than the corporations applied in 1917.

The annual report of the Interstate Commerce Commission for Class I railroads shows that there were only 163,182 tons less rail laid in replacement and betterment in 1918 than in 1917, or a decrease of only 8 per cent. So far from "skimping" the Southern Pacific System for rails, the government (despite the demands of General Pershing for rails in France) in 1918 laid 436 more tons of new rails on the Southern Pacific System than Mr. Kruttschnitt laid in 1917.

There is filed herewith an exhibit, a table taken from a statement prepared by the Division of Operation of the United States Railroad Administration dated May 15, 1919, showing the number of cross ties used in maintenance for the annual average of the test period and that of the calendar year 1917 and 1918 on typical systems.

For the 18 typical roads shown the Railroad Administration in 1918 laid 2.9 per cent more ties than the 18 corporations laid in 1917, and fell short of the test period only 15.2 per cent, while in 1917 these corporations fell short of the average for the test period 17 per cent.

Early Days of the Railroad Administration

For nearly five months the full power of the government was put behind these corporations. These executives were backed to the limit in what they, and the Railroad War Board, had declared necessary to operate the railroads successfully.

The conditions on the Pennsylvania, the B. & O., the Reading, and the Central Railroad of New Jersey were so unsatisfactory because of the congestion on these lines and their failure to produce the requisite amount of transportation, in effect paralyzing transportation all over the Eastern territory, that I became convinced that the managements were not efficient. On the 17th of January, 1918, I addressed letters to the presidents of each of these railroads in which I stated to them frankly that, as we were in the midst of a great war, the public interest and the life of the Nation demanded that these railroads should be operated efficiently and that excuses were worth nothing; that only results would tell; that unless there was a decided improvement a change in the management of these properties would become inevitable.

[Mr. McAdoo here presented copies of his letters of which the following is a sample, together with their replies:]

"I make due allowance for storms and the elements and for other things that I know complicate the railroad situation. Nevertheless, we are in a great war, and excuses are not worth anything. The only thing that tells now is results. The public demands them and the life of the Nation demands them.

"I would not be candid if I did not tell you that I am not fully satisfied with the efficiency of the management of the ——— Railroad. I believe that great improvement can be made, and I look to you and the officers of that system to bring that improvement about at the earliest possible moment.

"My personal regard for you is an assurance that I would not consciously criticize unfairly, and that same personal regard makes me anxious for your success. But I would not be frank if I did not tell you that unless there is a decided improvement in the efficiency of the ——— Railroad system, a change in the management will become inevitable. This I should deeply regret."

In these replies from Messrs. Rea, Willard, Dice and Besler, we find the same complaint of (1) lack of locomotives, (2) shortage of labor, (3) reduced efficiency due to lack of skilled labor, (4) unprecedentedly severe weather, and lastly, a pledge of loyal cooperation and support.

It is reasonable to assume that, in view of the assurances of cooperation and support given by railroad officials throughout the country to make government operation successful for the purposes of the war, and in view of the exercise of all the powers of the government to help the railroad corporations operate the railroads at the highest point of efficiency, the executives did their best to manage these properties efficiently and successfully, and yet during the first five months of 1918, when they operated the railroads as agents of the director general, results were most disappointing.

On May 18, 1918, the railroad presidents were released and federal managers substituted for them. These federal managers were chosen from the railroad officials according to their ability and their knowledge of the properties. In each instance the federal manager was a former president or general manager or some high official of a railroad company. At the same time the country was divided into seven regional districts and a regional director was appointed in each and had control of the general operations of all the railroads in his territory. Under him were the federal managers. The seven regional directors appointed, were recognized as being among the ablest men in the railroad profession.

Each of these regional directors was required to resign from the presidency of his company. Smith gave up a salary of \$87,000 per year and accepted \$50,000 per year as regional director,

Aishton and Holden and Markham gave up \$60,000 or more per year to accept \$50,000. Winchell and Maher each received \$40,000 as regional directors, the same or less than they were receiving as officials of their respective companies. These seven men I wish now to say served their country with patriotism, fidelity and ability. Every criticism against the Railroad Administration is in effect a criticism against them because if the railroads were not efficiently operated the responsibility was largely theirs. I have denied heretofore, and I deny now that they ran the railroads inefficiently. The best vindication of their ability as railroad men is the record of railroad operation from the 21st day of May, 1918, when the corporations were relieved of control.

These seven eminent railroad men can not be accused of being faithless to the railroad interests of the country when they pointed with pride to the *efficient operation* of the railroads during 1918. Criticism of the Railroad Administration is an attack upon the ability, capacity, and patriotism of these men, and upon all the subordinate railroad officers and men who were retained to operate the railroads under federal control.

It is pertinent at this point to examine the various annual reports of these regional directors made to the director general touching the operation of the roads under their control. These reports disclose with definite clearness that the unification of the railroads under federal control resulted in the saving of millions of dollars which would not have been possible under operation by their owners. (Here follows a number of extracts from the reports of the regional directors.)

It may be said in criticism of these comparisons that the higher wages of labor, as well as higher freight and passenger rates since 1920 were an inheritance of private management from the Railroad Administration. To this the obvious answer is that it does not necessarily follow that such advances would have been made under a continuance of federal operations, but even so, the Railroad Administration in 1918, as I have pointed out, inherited the necessity of equally as large wage increases from private management before the war and had to make corresponding increases in freight and passenger charges.

Increase in Rolling Stock Under Federal Control

In three and one-half years from June 30, 1914, to December 31, 1917, the total increase of tractive power for all locomotives amounted to 193,320,820 pounds. This represents an average annual increase of 55,234,520 pounds for the three and one-half years in question. During the period of federal control there was an increase of 254,495,000 pounds tractive effort. This represents an average annual increase of 117,460,000 pounds as compared with the average annual increase of 55,234,520 pounds for three and one-half years prior to federal control.

From June 30, 1914, to December 31, 1917, the total increase in the tonnage capacity of freight train cars amounted to 4,283,050 tons, or an annual average increase of 1,223,728 tons. During the period of federal control there was an increase of 7,801,106 tons capacity. This represents an average annual increase of 3,646,664 tons capacity as compared with the annual average increase of 1,223,728 tons capacity for the three and one-half years prior to federal control.

The Proposed 5-Years Test Period

It will be remembered that in December, 1918, I had announced my conviction that the roads should be returned as promptly as possible unless the Congress authorized their retention for a sufficient length of time to test under normal conditions the value of unified control and direction. I suggested a five-year test period for this purpose.

Congress refused to approve my suggestion and following the insistent demands of the railroads, provided that they should be retained until March 1, 1920, and in addition guaranteed to them for the first 6 months after their return, an income equal to one-half of the yearly income during federal control.

I do not wish to be understood as renewing the suggestion for a five-year test period, because the time for it has gone by—continuity of operation having been broken, but, speaking on the general results and effects of restored private control and the return to the old so-called competitive system of railroad operation with its great wastes and inefficiencies, with the tremendous burden imposed on the public of increased freight and passenger rates, the evil consequences of which are reflected in the prostration of agriculture, labor and industry, and of the colossal claims made by the railroad corporations against the government for alleged under-maintenance, inefficiency of labor, etc., I am convinced that it would have cost the American people far less money to have controlled the railroads for said test period than has resulted from their return to private control. Whatever of under-maintenance may have existed, the government could have overcome at reasonable cost during the five-year test period and whatever questions have arisen on this score, out of their earlier return

would have been eliminated at the end of the five years because there would have been ample time to equalize over-maintenance, of which there was a great deal on some lines, with the under-maintenance on others and to bring the properties up to a high standard of construction and efficiency.

I am also convinced that the present level of freight and passenger rates would have been unnecessary because there is no question in my mind that a well-directed and unified operation of the railroads would enormously reduce the cost of operation and greatly increase efficiency. Again, the cost of credit for capital expenditures and refunding of maturing obligations would have been less than under private control. During such a test period the existing investments in the railroads would have been protected, labor problems would, in my judgment, have yielded to more reasonable treatment, and the common use of terminal facilities, not possible under diversified competitive control, would have constantly tended toward a lowering of the cost of transportation since the terminal costs constitute such a large percentage of the total.

Railroad Administration's Labor Policy

Upon my assumption of the duties of director general, January 1, 1918, I was confronted with the tremendous problem of relieving the unprecedented congestion of traffic and restoring efficient operation of the railroads. An absolute essential to the achievement of these imperative needs was to satisfactorily dispose of the labor problem, which was then acute and menacing. Railroad employees throughout the country were thoroughly discontented and strikes were impending everywhere. The railroad executives had testified before the Interstate Commerce Commission and elsewhere that railroad wages were below the scale paid in competitive industries and had been seeking increases in rates in order that they might increase wages, and without which increases of rates they said that it was impossible to do so. My railroad advisers urged that I give immediate attention to the labor question. Railroad labor was grossly underpaid and there were many grave abuses in the matter of working conditions on the railroads which needed correction.

Among other things, the U. S. 16-hour law was being constantly disregarded. Railroad executives claimed that this was necessitated by the shortage of labor and other abnormal conditions. It was clear that railroad employees could not be expected to work for the railroads at lower rates of pay than they could command in competitive industries throughout the country. The high cost of living had made it impossible for many of them to live on the wages they were receiving, and it was clearly in the interest of justice and right, to say nothing of the wisdom and reason of the policy, to bring their wages to a level which would enable the railroads to command the requisite amount of service and to prevent the continued depletion of their forces with the constant labor turn-over which railroad managers themselves had insisted was one of the reasons why they were unable to make the railroads function efficiently.

The labor problem had to be settled from three angles, first, from the standpoint of railroad management, and second, from the standpoint of labor, and third, from the standpoint of the public. In order to meet the management phase of the problem I selected as the director of the Division of Operation (the most important division in the Railroad Administration) Carl R. Gray, whose long experience as a railroad executive and practical railroad man pre-eminently fitted him for this responsible task. Second, from the standpoint of labor, I appointed, as director of the Division of Labor, W. S. Carter, at that time president of the Brotherhood of Locomotive Firemen and Enginemen. No orders affecting wages or conditions of railroad labor were ever made by me except after full discussion with them and, while it was not always possible to reconcile different views, I may say that no order was ever made by me concerning wages or working conditions except upon the recommendation of these men or with their approval. I wish, however, to say that I accept full and complete responsibility, notwithstanding, for every order that was made by me as director general of railroads, whether upon the approval of any members of my staff or not. I always took the best advice I could get and then, as the responsibility for making the decision was mine, I did not hesitate to make the decision. Third, from the standpoint of the public. The director general was supposed to represent the public interest as well as all interests, and I created a Division of Public Service and Accounting and put at the head of it Charles A. Prouty (now deceased) for many years a member of the Interstate Commerce Commission.

Railroad Wage Commission

There was only one way to compose the disturbed labor situation on the railroads and that was to appoint immediately a railroad wage commission to investigate the subject, as I was unwilling to act solely upon my own judgment about so important

a matter, and to have it report after a careful investigation as to wages and working conditions with recommendation as a basis for action. As some months would be required to make these investigations, it was necessary to give railroad employees the assurance immediately that the delay would not operate to their disadvantage and that, if increases of wages were recommended by the commission and were put into effect by the director general, they would be retroactive to the 1st of January, 1918. This course was adopted after consultation particularly with A. H. Smith.

This commission upon exhaustive investigation found that railroad labor had been deplorably underpaid and recommended an increase ranging from 43 per cent for the lowest paid to nothing for the highest paid. In this connection, the findings of this commission utterly refute the charges that railroad employees took advantage of the war emergency to wring undeserved and unreasonable concessions in wages from the government.

The Wage Commission made its report on April 30, 1918, and upon its consideration and in accordance with its recommendation I promulgated, May 25, 1918, General Order No. 27 granting the suggested graduated increase of 43 per cent for the lowest paid to increase for employees receiving \$250 per month and over. This increase was below the wages of corresponding groups of other industrial workers.

Until recently no question was ever raised as to the justice and propriety of the increases in wages so made. In fact, the wisdom and necessity of these increases was generally conceded at the time. The increases granted by the United States Railroad Labor Board in 1920 are reflected in the payrolls of seven months only of the year 1920, but if the estimates submitted by the Association of Railway Executives are correct, as to what the full effect of this increase would have been if distributed over the whole year 1920, the added labor outlay would have been approximately \$1,147,000,000, as compared with only \$866,000,000 for the entire year 1918, or \$281,000,000, more than the total increases in the payroll in the year 1918. There was not the slightest complaint from any railroad executive that the wage increases promulgated in General Order No. 27 and in the supplements thereto were too high; and never at any time during that year were railroad wages too high. The fact is that railroad employees worked for less pay during the war than any other class of industrial workers doing similar work. The further fact is that no fair complaint can be made of the part the railroad employees performed during the war.

Railroad Executives Urged Wage Increases

Not only did no railroad executive complain that the scheduled wages in General Order No. 27 was too high, but the contrary was true. Time and again railroad executives appealed to the Railroad Administration at Washington to increase wages in order that the munitions factories, shipbuilding plants and other industries should not draw from the roads their skilled labor. The correspondence between Regional Director A. H. Smith, and Director of the Division of Transportation, C. R. Gray, with the accompanying letter from President Rea of the Pennsylvania Railroad, conclusively show that the Pennsylvania officials were not satisfied with the award of the Railroad Wage Commission because the increase was not sufficient. President Rea, particularly complained of the basis upon which the Railroad Wage Commission made its award, to wit: that railroad labor was entitled to a living wage, saying in effect, that while this was a deciding factor, another factor should very largely govern and that was the wages paid in other industries, pointing out that by virtue of the higher rate paid by other industries his road had lost a large number of its employees.

Immediately upon the issuance of General Order No. 27, the Board of Railroad Wages and Working Conditions was directed to give consideration to the rates of pay and working conditions of shop crafts so that a supplement might be issued promptly establishing a rate more nearly equal to the rates paid by private industries, shipyards and other government departments. It was necessary for the board to define the work of the various crafts so that each might receive the proper rate; otherwise the purpose of the order might be entirely defeated if on any railroad the men were given improper classification. On the other hand, it would be possible for the officials to classify mechanics as handy-men or helpers and thereby decrease their rates below those which were intended to be paid them. Therefore, for the protection of the administration against excessive charges, as well as for the protection of the employees against discrimination, it was necessary for the board to define the work of each craft. On July 8, 1918, the three railroad members of the Board of Railroad Wages and Working Conditions submitted to me one recommendation and the three labor members of this board another.

At the hearings held by this board the representatives of the federated mechanical crafts had demanded the allowance of a universal minimum rate of 75 cents per hour for the seven federated crafts—machinists, blacksmiths, boiler-makers, sheet

metal workers, electricians, molders and carmen; an eight-hour day, time and one-half for overtime, a minimum guarantee of \$6 per day of eight hours, a minimum rate of 56¼ cents per hour for all helpers of the indicated seven crafts, and that no rate for the above crafts should carry an increase of less than 25 cents per hour. The railroad men and the labor men on the board could not agree on a report and submitted separate reports. They differed both as to the classification of the employees and as to the rate of compensation. After full consideration of these reports with Director of Operations, Carl R. Gray, and Director of Labor, W. S. Carter, and Assistant Director of Operations McManamy, and upon their advice, Supplement No. 4 to General Order No. 27 was promulgated July 25, 1918. This supplement was based almost entirely upon the recommendations made by the railroad members of the board as will be disclosed by the comparison between this supplement and the two recommendations aforesaid.

Recommendations of Railroad Members of Wage Board Followed

There was no general reclassification of railroad employees under Supplement No. 4, but the regular classification of railroad employees in the mechanical crafts that was in general use on all railroads was uniformly applied to individual employees who were performing the work of the various crafts. Further than this, Supplement No. 4 adopted the classification recommended in the report of the railroad members of the Board of Railroad Wages and Working Conditions and approved by Director of Operations Gray, his assistant, McManamy, and Director of Labor Carter.

Manifestly, the wage scales could not be applied unless the same classification of railroad employees existed everywhere, and since all the railroads were under federal control and the government was a common employer, it was impossible to pay shopmen on the Erie Railroad, for instance, working alongside shopmen on the Pennsylvania Railroad, a different rate and to give them a different classification.

However, after the promulgation of Supplement No. 4, it was soon found that on a number of railroads men who were doing mechanical work were classified as helpers and men doing helpers' work were classified as mechanics; therefore, Interpretation No. 1 to Supplement No. 4 was issued, the purpose of which was to pay each employee in accordance with the work he was doing. This was to protect the administration as much as to protect the employee, and many cases exist where employees' classification was reduced, thereby resulting in enormous savings. As a matter of fact, the classification of some 2,254 men on the Pennsylvania Lines West was reduced at one time, thus effecting a saving to the administration of \$3,426 per day, \$1,041,504 per annum, which was being wrongfully paid out by the officials in charge of that road.

In a similar case Regional Director Hardin, who succeeded A. H. Smith, at New York, protested against decisions made by the Railroad Administration because they would force him to reduce the classification of some 2,000 men on the New York Central Railroad who were being overpaid, and appealed to the director general to set aside such decision. However, the decision was sustained and the men's classification was made to correspond with the work they were actually doing, thereby effecting a large saving to the administration.

John G. Walber, secretary of the Bureau of Information of the Eastern Railroads, was one of the last witnesses called before this committee by the railroads in the hearings of last June. He was a member of the Board of Adjustment No. 1 during 1918 and handled during the last three months of federal control labor matters for the Eastern Region as labor assistant in the Division of Operation. He discussed at length the increases made in wages by supplement No. 4 to General Order No. 27. He says that this order was the beginning of reclassification of employees in the mechanical department. He failed, however, to inform this committee, although discussing very fully the results of the so-called reclassification of employees in the mechanical crafts, that I adopted the identical classifications recommended by Messrs. Gaines, formerly of the Georgia Central, Morse of the Chicago & Northwestern and Denver & Salt Lake, and Lindsey of the New York Central, as railroad members of the board, and upon the advice of Carl R. Gray, W. S. Carter, and Frank McManamy. As a matter of fact, 142 railroads had signed agreements with their shop employees prior to federal control, in which there were substantially the same classifications.

Again Mr. Walber calls to the attention of the committee the fact that before the promulgation of Supplement No. 4 certain railroads did not pay punitive overtime, for which this order provided. The clear inference from this testimony is that the payment of punitive overtime was forced upon the Pennsylvania and Philadelphia and Reading against their wishes. Mr. Walber, however, failed to tell the committee that time and a half for

overtime on the Pennsylvania was granted by Regional Director Smith, without authority from the Railroad Administration, at the request of President Rea and upon the recommendation of Mr. Walber himself.

The scale of wages put into effect by Supplement No. 4 was unsatisfactory to the shop crafts generally and their representatives and the heads of their organizations on August 2, 1918, filed a protest against it. This was not unnatural in view of the recommendation of a higher scale by the labor members of the Board of Railroad Wages & Working Conditions, and in view of the further fact that the scale of wages being paid in shipyards and war industries was higher than the scale established in Supplement No. 4. I felt that there was genuine merit in the contentions of the men, but upon a full consideration of the matter and in view of all the conditions prevailing, I felt obliged to refuse their request for a reconsideration of the case and decided that the scale established in Supplement No. 4 must stand. I outlined my position and my decision in a letter I addressed to them under date of August 28, 1918.

The shop crafts accepted this decision and throughout the entire period of the war their members stood by their jobs and worked for less pay than was offered to them in competitive industries. No stronger refutation of the charge that railroad men were inefficient or indifferent to the interests of the Railroad Administration and of their country in its great emergency could be adduced than this incident. What I have said about the shop crafts applies to all the other employees of the railroads who, with like patriotism and zeal, served their country in that great time.

Other Wages Higher Than Paid

by Railroad Administration

The charge that the wages of railroad labor were unnecessarily raised and that wages were thereby elevated throughout the country is false. The schedules of wages promulgated by the Railroad Administration during 1918 were generally below those in other basic industries and well below the rates fixed by the navy yards, by the National War Labor Board and by the Shipbuilding Labor Adjustment Board.

The extraordinary orders for munitions and supplies of all kinds placed in this country by allied governments during the calendar years 1915-1916 led to an unprecedented demand for labor, which, in turn, was followed by remarkable increases in rates of pay for all classes. With our advent into the war these conditions were intensified. To secure workmen for the shipbuilding plants, rates of pay were further increased and standardized for the entire country by the Shipbuilding Labor Adjustment Board during the autumn of 1917 and the winter of 1918. During the early spring of 1918, the Taft-Walsh Board sanctioned large wage increases in all branches of industry and through its support of the principle of a living wage gave an unusual impetus to the rising rates of pay of unskilled workers.

These conditions necessarily caused advances in the rates of pay of railway workers. The Railroad Administration itself was a conservative instead of an initiating influence in the general advances in wage payments. The award of the impartial Railroad Wage Commission in March, 1918, according to the experience and insistence of the railway executives themselves, did not go far enough in meeting competitive conditions in increasing rates and classifying certain classes of workers. Subsequently, almost without exception, the recommendations of the railroad representatives of the Board of Wages and Working Conditions were accepted as a basis for further wage adjustments. The Railroad Administration in general actually lagged behind the rates of pay established by the Shipbuilding Labor Adjustment Board and the National War Labor Board.

Piece Work

The railway executives have laid great stress on the abolition of piece work, claiming that maintenance costs were largely increased thereby; piece work was abolished only after an extensive investigation covering a period of months in which a comparison of the results obtained in a region working day with a region working piece work had shown:

1. There was no advantage from efficiency standpoint in piece work over day work in locomotive repair shops.
2. That locomotive maintenance costs per 1,000 pounds of tractive power mile were greater in the region working piece work than they were in the region working day work.
3. That it was not possible under piece work system to avoid large payments to workmen, for work which was not performed. In fact on the Pennsylvania Railroad it was found that the officials had voluntarily overpaid piece workers to the extent of more than two and one-half millions of dollars.
4. No substantial difference in the general condition

of equipment was found in the piece work region as compared with the day work region on roads where work was properly supervised and a high standard of maintenance required.

Less than 10 per cent of all the employees in the maintenance of equipment department were at any time, during federal control, working on the piece work plan; therefore, authorizing it to be discontinued could not have seriously affected maintenance costs either during or since federal control. For the information of the committee the reports of the investigations and the recommendations upon which I authorized piece work be abolished are herewith attached.

Report on Head-on Collision at Camps, Texas

THE inspectors of the Interstate Commerce Commission have made a report on a collision on the Texas & Pacific, in Texas, on November 10, where six or more persons were found chargeable with negligence or misconduct.

The collision occurred near Camps, Gregg County, about 30 miles west of Marshall, and the trains were westbound passenger No. 3 and eastbound freight No. 66, first section. The fireman of the freight train was killed and 43 passengers and four employees were injured. The collision occurred at about 5:11 a. m., one mile west of Camps, which station No. 3 had passed because of disregard of a train order. At Longview Junction, eight miles east of Camps, the conductor of No. 3 had received a number of train orders, one of which, No. 8, would have allowed train No. 3 to go beyond Camps; but another, No. 14, received later, required it to wait at Camps until 5:15.

Order No. 14 was on Form 19, but the other was on Form 31. With No. 14, the operator was instructed to issue a caution card, Camps being, apparently, in the middle of a manual block signal section. The engineman declared that he did not receive order No. 14 and that it was not listed on the clearance card he received. This clearance card appears to have been lost.

Summarizing a long statement of irregularities, the report of the inspector says that Conductor Turner of No. 3 knew that he should wait at Camps until 5:15, yet allowed his train to pass at 5:10.

He said that he did not know the train had passed the station. Also there is no evidence, except Turner's word, that order No. 14 was given to the engineman or to the fireman. Conductor Turner and the engineman made no effort to compare their orders.

The conductor and the engineman of the freight are also at fault for starting for Camps with insufficient time from the last preceding station. The operator at Longview Junction is at fault for issuing a clearance card saying that the block was clear when it should have stated that the block was occupied; also for failing to issue a caution card after being so instructed by the dispatcher. Conductor Turner should have refused to accept the clearance card improperly filled out.

The dispatcher is criticized for encouraging the freight to run at excessive speed to reach the meeting point and for issuing order No. 14 on Form 19, which form is not allowed to be used to restrict the superiority of a train at a station where there is no telegrapher.

The engineman of the freight claims that he did not need to clear the superior train by five minutes, which ignorance or misunderstanding of rules is a reflection upon the officers, says the report. Five persons, altogether, are censured in connection with order No. 14; and the conductor of the freight for sending orders to the engineman by the flagman instead of delivering them personally. All of the employees involved were experienced men.

Recent Changes in American Hose Connectors

Passenger Heads Interlocked Under Pressure—Permanently Attached Freight Interchange Adapter

THE AMERICAN automatic hose connector is one of the few connector devices placed on trial during the past seven years, the practicability and reliability of which has been indicated by an extensive period of service. It is now in service on the equipment of eight steam railroads and two industrial roads in the United States and installations are now under way on several other steam railroads.

The American connector is manufactured by the American

ment the lugs may readily be welded on, while new couplers may be secured with the lugs cast on. The standard arrangement of hose connections remains undisturbed.

The first extensive installation of American connectors,* comprising 100 freight cars, 18 locomotives and 24 passenger cars, was made on the Copper Range Railroad at Houghton, Michigan, early in 1919. These connectors have been thoroughly tested under severe conditions as to climate and curvature and are still in service.

Since that installation a number of improvements, either in the head itself or its attachments, have been made to insure positive maintenance of vertical alinement, the automatic locking of the heads under high steam pressure in passenger service and to provide a convenient freight interchange adapter.

The application of the chain suspension to both passenger

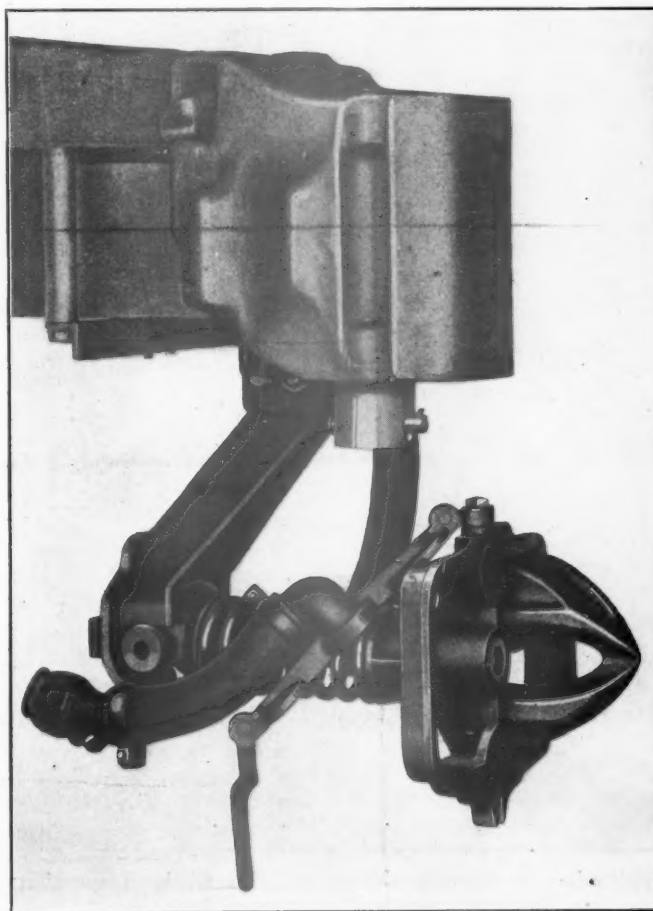


Face of Passenger Connector Head; Brake Pipe and Signal Adapter Is Attached Direct to the Head, Steam Heat Adapter to the Hose

Automatic Connector Company, Cleveland, Ohio. It is of the butting joint type with a so-called pin and funnel type gathering and registering device; and the head is designed to provide a gathering range of $7\frac{1}{2}$ in. vertically by 7 in. horizontally, a range materially greater than that of the standard coupler. Each connector complete consists of six parts and weighs 50 lb. As shown in the illustrations, the brake pipe is in the center of the bearing face of the connector head; on passenger heads the center of the signal port is located $3\frac{1}{2}$ in. above and the center of the steam heat port 4 in. below the center of the brake pipe port. The ports normally lie in the same vertical plane as the center line of the drawbar, with the pyramidal or projecting guide at the right and the receiving guide at the left when facing the end of the car.

When two connectors are joined the gaskets are slightly compressed and the contact between the heads is made at four points. These points are 11 in. apart horizontally and 15 in. apart vertically, a spread of bearing that assures freedom from leakage in going around sharp curves or over rough track with frozen hose.

The connector is suspended from a malleable iron bracket which is either bolted to a lug on the coupler head or directly to the coupler shank. For installations on existing equip-



American Freight Connector with Permanent Interchange Adapter

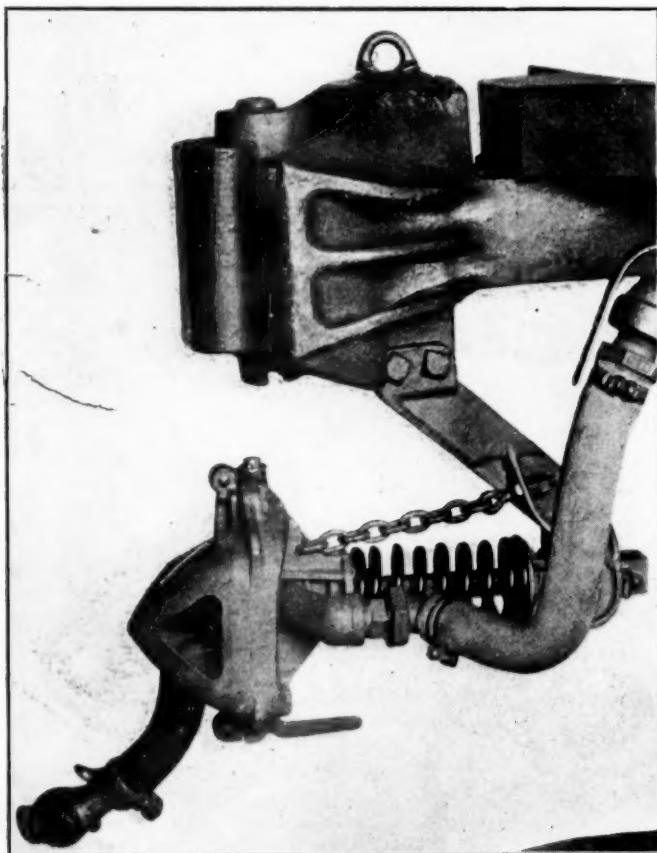
and freight connector heads, by which accurate vertical alinement of the head is assured while in its free position, is shown in the drawing and in one of the photographs. By referring to the drawing it will be seen that the length of the chain is so adjusted that when the head is free the center line of the connector is raised at an angle such that the nose of the projecting guide is held $\frac{7}{8}$ in. above the horizontal line through the pivot center. In this position the bearing

*The connectors applied to this equipment were briefly described in the *Daily Railway Age*, June 18, 1919, page 1477.

face of the connector head projects $1\frac{1}{2}$ in. beyond the inside face of the coupler knuckle. The angle of the chain is such that when connector equipped cars are coupled the slack produced by the $1\frac{1}{2}$ in. compression gives the heads complete freedom of angular movement within the full range of movement of the car couplers, both angular and vertical.

In passenger service the use of high steam pressure on the steam heat line, particularly between the locomotive and a baggage car equipped with head end lighting equipment, produces a severe reaction tending to separate the heads unless springs of higher capacity than those used in freight service are included in the equipment. As the steam heat connection is at the lower port in the face of the connector, the tendency is to open up the connectors at the bottom around the top bearing surfaces as a pivot. This tendency has been utilized to produce a positive lock which holds the connectors tightly engaged, irrespective of spring tension, so long as the heads are under pressure.

By referring to the drawing it will be seen that the lower gathering surface of the projecting guide has been extended to form a slight shoulder or permanent latch. On the corresponding surface of the receiving guide is a similar shoulder, the two being in such relation to each other that when ad-

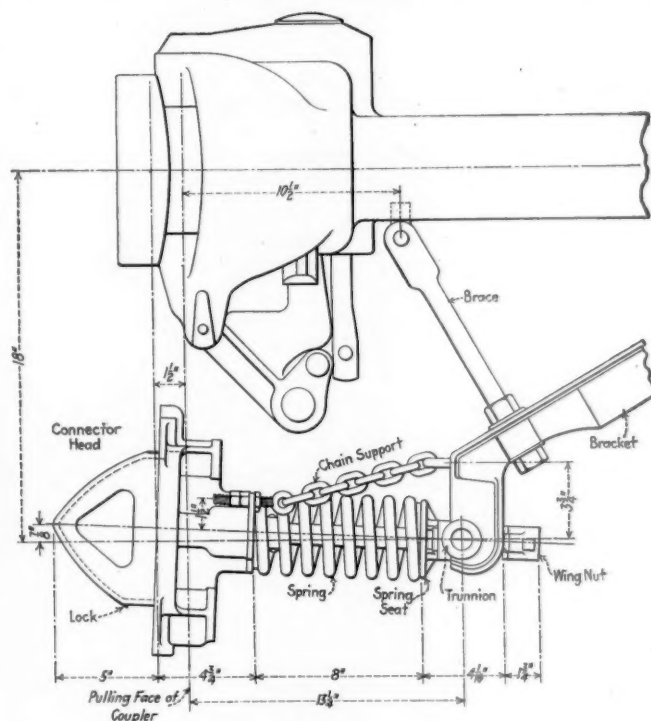


Application of Freight Connector with Chain Suspension; Interchange Adapter in Service Position

joining heads are brought together they interlock. Any tendency of the heads to open at the bottom therefore automatically brings together the faces of these two projections and effectively prevents further opening. When the cars are uncoupled, however, the first separation of the connectors is at the top; this is insured by the slight elevation of the connector heads effected by the chain adjustment. This angularity of the heads disengages the interlocked lugs so that they cause no interference with the normal operation of the connectors.

One of the problems of connector service is the convenient

adaptation of connector cars to operate with cars equipped with standard hose connections. An interchange adapter for freight connectors has been developed by the American Automatic Connector Company, which is permanently attached to the connector head and can be placed in or removed from the interchange position in a few seconds without tools. In one of the illustrations the adapter is shown clamped in operation position and in another it is swung back out of the way. The adapter is locked in service position by means of a lever at the bottom which is engaged in a slot between two lugs at the bottom of the connector head. Laterally projecting shoulders on the lever engage the rear surfaces of the



Application of Passenger Connector with Chain Support and Automatic Pressure Lock

lugs. In closing the lever these projections, in passing the corners of the lugs, compress the gaskets in the face of the connector, the pressure being slightly relieved when the lever has been fully raised. The lever is thus held in the locking position without the use of mechanical fastenings which materially simplifies the operation of applying or removing the adapter.

The American connector has been thoroughly tested on the Copper Range Railroad under particularly severe climatic conditions, in both freight and passenger service. While the connector may be considered primarily a safety device, the results of these tests indicate that its application was fully justified as an economy measure. Air hose renewals on the 100 Copper Range freight cars equipped with the connectors were reduced from \$80.50 in 1918 to \$1.15 in 1919 and gasket renewals were reduced from \$4.80 in 1918 to \$.32 in 1919. On 20 passenger cars no air hose renewals were made in 1919, while in 1918 they cost \$16.10. Steam hose renewals were similarly reduced from \$154.00 to \$6.60. On the average it is conservatively estimated that the connectors may be expected to effect a reduction of 60 per cent in hose and gasket renewals. The total cost of maintaining connector service on 100 freight cars and 20 passenger cars for a period of 8 months was \$40.63. This included hose and gasket renewals as well as damage to connector heads caused by striking bumpers at mills, and other obstructions, before proper clearances were established for the connectors.

The connectors greatly reduce brake pipe leakage. This improves the operation of the brakes, saves fuel and air pump maintenance and materially decreases the damage to equipment from undesired slack action. Air pumps maintenance was reduced 50 per cent on engines regularly handling connector equipped cars.

On the Copper Range, ore cars move between the mines and mills and are uncoupled twice each day, once at the mine and once at the mill. Some of these cuts require coupling on curves as sharp as 19 deg. and the gathering range of the connectors has been found to exceed that of the car couplers. In this service the connectors effect a saving in crew time of one-half hour a day for each 40 car train.

During the tests conducted in 1919 on the Copper Range by the Bureau of Safety of the Interstate Commerce Commission, the ability of the American connector head to withstand abusive treatment was clearly demonstrated. In a number of coupling tests with connector equipped cars on sharp curves and with abnormal conditions of vertical alignment artificially created to place the connectors beyond their gathering range, the only damage suffered by the connectors was the bending of the shafts. Following each of these tests the heads were allowed to return to their normal position and the cars again coupled. In all cases the connectors then performed their intended functions of gathering, registering and maintaining tight brake pipe joints. The gasket faces are completely protected from injury by an adjoining head under conditions which prevent the heads from gathering and registering, and the form of the projection guide is such that it is not susceptible to injury unless from a cause serious enough to destroy the entire connector and its attachments.

Since the first trial installation of American connectors on the New York Central at Chicago late in 1918, trial installations have been placed in service on the Copper Range Railroad; the Erie; Baltimore & Ohio; Detroit, Toledo & Ironton; Nashville, Chattanooga & St. Louis; the Chicago Great Western and the Monon. A number of industrial cars of the American Steel and Wire and the Carnegie Steel Companies have also been equipped. All of these installations are still in service, except that the original installation on the New York Central was removed and substituted by improved connectors which are now in service on the Lansing division.

Wage Reduction Disputes Now Before the Labor Board

THE CONTROVERSY between the railroads and practically all classes of their employees over proposals made some time ago for further reductions in wages will soon be in the hands of the Railroad Labor Board, according to present indications. Approximately 50 disputes between individual carriers and various groups of employees have already been certified to the Board.

Among the carriers which have submitted their cases to the Board are the Atchison, Topeka & Santa Fe and subsidiaries; Baltimore & Ohio; Chesapeake & Ohio; Gulf, Colorado & Santa Fe; Gulf Coast Lines; Illinois Central; Lake Erie & Western; Lehigh Valley; New York Central; St. Louis-San Francisco; Wabash; Yazoo & Mississippi; Buffalo & Susquehanna; Grand Trunk; Northern Pacific; Minneapolis & St. Louis; Chicago, Burlington & Quincy; Cincinnati, Indianapolis & Western; Kansas, Oklahoma & Gulf; Los Angeles & Salt Lake; Oregon-Washington Railroad & Navigation Company; Baltimore & Ohio Chicago Terminal; Chicago, St. Paul, Minneapolis & Omaha; Duluth, South Shore & Atlantic; Oregon Short Line; Texas & Pacific; Chicago Great Western; Western Pacific; Missouri Pacific;

Southern Pacific; Minneapolis, St. Paul & Sault Ste. Marie; Chicago, Indianapolis & Louisville; Union Pacific and subsidiaries; Missouri, Kansas & Texas; Buffalo, Rochester & Pittsburgh; Louisiana & Arkansas; Colorado & Southern; Peoria & Pekin Union; Kanawha & Michigan; Kanawha & West Virginia; Kansas City, Mexico & Orient and subsidiaries; International & Great Northern; Minnesota Transfer; St. Paul Bridge & Terminal Company; Ann Arbor; Chicago, Peoria & St. Louis; Fort Worth & Denver City; Wichita Valley; Mineral Range; Union Stock Yards of Omaha; Ogden Union Railway & Depot Company; Gulf & Ship Island; Keokuk Union Depot, and the Toledo, Peoria & Western.

An analysis of the submissions which have already been made to the Board shows that more carriers have requested reductions in wages of those employees represented by the United Brotherhood of Maintenance of Way Employees and Railroad Shop Laborers and the Order of Railroad Telegraphers than of any other classes, 43 carriers submitting requests for reductions in wages for these employees. Submissions involving requests for reductions in the wages of employees represented by the Brotherhood of Railway & Steamship Clerks, Freight Handlers, Express and Station Employees and the Federated Shop Crafts have been made to the Board by 42 and 41 carriers respectively. The following analysis of the submissions made so far shows the number of carriers requesting reductions in the wages of the employees represented by the organizations indicated:

Organization	No. of carriers filing submissions
Brotherhood of Locomotive Engineers.....	39
Brotherhood of Locomotive Firemen and Enginemen.....	36
Order of Railway Conductors.....	35
Brotherhood of Railroad Trainmen.....	37
Switchmen's Union of North America.....	6
Order of Railroad Telegraphers.....	43
Federated Shop Crafts.....	41
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Unorganized Police Employees.....	1
Unorganized Red Caps.....	1
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International Union of Steam Operating Engineers.....	1
Stewards, Porters, Cooks and Waiters.....	1
Special Agents, Special Watchmen and Officers.....	1
Switch Tenders.....	1
American Federation of Railway Workers.....	1
Unorganized Storekeepers.....	1
Marine Employees.....	1

Labor Organizations Bring Requests for Wage Increases Before Board

As a result of the announced intention of several labor organizations to meet the requests of the carriers for wage reductions with demands for wage increases, several of the labor organizations have also submitted disputes to the Board. Submissions have been filed by the American Train Dispatchers' Association covering disputes of this character with the Oregon Short Line; Chicago, Indianapolis & Louisville; Duluth, South Shore & Atlantic; Mineral Range, and Texas Pacific. The Federated Shop Crafts have filed submissions involving disputes with the Lehigh Valley; International & Great Northern; Trinity & Brazos Valley, and Chicago Junction. The Order of Railroad Telegraphers similarly has filed submissions regarding disputes with the Wabash; Gulf Coast Lines; Minneapolis, St. Paul & Sault Ste. Marie; Trinity & Brazos Valley; Chicago, St. Paul, Minneapolis & Omaha; Fort Worth & Denver City; Wichita Valley, and Oregon Short Line. The Brotherhood of Railway & Steamship Clerks, Freight Handlers, Express and Station Employees has also filed submissions covering disputes with the Baltimore & Ohio Chicago Terminal; Minne-

apolis, St. Paul & Sault Ste Marie; Fort Worth & Denver City; Wichita Valley; Gulf, Colorado & Santa Fe; Beaumont Wharf & Terminal Company; Minnesota Transfer; Southern Pacific Lines in Texas and Louisiana, and Union Pacific.

No action has been taken by the Board as to docketing or consolidating these cases, but it appears from the number and character of the submissions already made and from the progress of the negotiations on individual carriers that have not as yet filed their submissions, that the entire controversy will be in the hands of the Board before the end of February.

Work has practically been completed on the new rules to cover the working conditions of signal department employees and these are to be announced in the near future, leaving only the disputes involving smaller groups of employees to be disposed of.

Freight Car Loading

WASHINGTON, D. C.

DUE PRINCIPALLY to increased shipments of coal, loading of revenue freight totaled 743,728 cars during the week which ended on January 28 compared with 738,275 cars during the previous week or an increase of 5,453 cars, according to the report of the Car Service Division of the American Railway Association. This was also an increase of 42,123 cars compared with the corresponding week in 1921, but a decrease of 59,604 cars compared with the corresponding week in 1920.

Coal shipments during the week of January 28 totaled 180,966 cars, which was an increase of 16,875 cars over the week before, and 17,536 cars in excess of the corresponding week in 1921. It was, however, 7,949 cars below the number shipped during the same week in 1920. Coke shipments also increased 235 cars over the week before which brought the total to 7,502.

There were 32,590 cars loaded with live stock, an increase of 629 cars over the week before and 213 cars more than were loaded during the corresponding week last year. Shipments of grain and grain products amounted to 50,880 cars, 1,301 cars less than were shipped the week before. This was 10,916 cars more than were loaded during the same week in 1921 and 14,376 cars more than during the same week in 1920.

Forest products also showed a reduction of 2,955 cars under the week before, the total being 47,373 cars which was

5,000 less than the corresponding week last year. Merchandise and miscellaneous freight, which includes manufactured products, totaled 420,410 cars, a reduction of 7,768 under the previous week. This was 24,703 cars above the total for the corresponding week in 1921, but 43,804 under the corresponding week in 1920.

Compared by districts, increases in the loading of all commodities over the week before were reported in all except the Eastern and Southern districts, while the Southwestern district was the only one to show a reduction compared with the corresponding week in 1921.

Accounting for Settlements With Railroad Administration

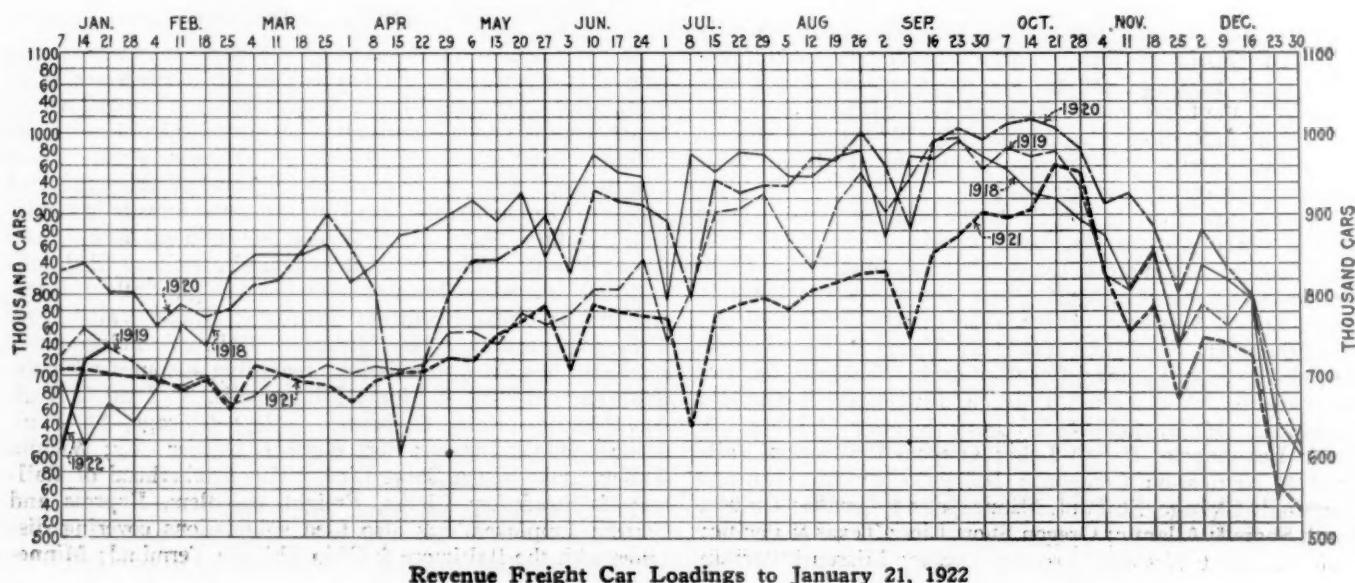
THE Interstate Commerce Commission, having under consideration the procedure to be observed by carriers whose systems of transportation were under federal control, in accounting for the amounts receivable from or payable to the director general of railroads in final settlement for the use and operation of their property during federal control has ordered that the following accounting procedure be observed by such carriers:

(1) All ledger accounts with the United States Railroad Administration covering items adjusted in such final settlement shall be considered as liquidated and shall be closed.

(2) Items on which the amount of settlement may be mutually agreed upon between the director general and the carrier whether or not previously recorded in the accounts, shall be recorded in the accounts in accordance with the effective accounting regulations on basis of settlement agreed upon.

(3) Any difference between amounts adjusted in accordance with the foregoing and the amount collected or paid by the carrier in such final settlement shall be cleared to profit and loss account 607, "Miscellaneous credits," or 621, "Miscellaneous debits," as may be appropriate, provided that the use of profit and loss in clearing balances shall not operate to relieve carriers of the observance of classification rules applying to additions to and retirement of physical property and the maintenance of adequate depreciation reserves for equipment.

EIGHTY-FIVE PER CENT of the 160 married employees of the Chicago, Rock Island & Pacific at Pratt, Kan., who have been in the company's service one year or longer, are home owners.



Real Program of Railroad Construction Needed

Tremendous Losses Suffered Because of Lack of Foresight and Antagonism to Railroads

By Herbert Hoover, Secretary of Commerce*

IN RESPONDING to the invitation to discuss some of the problems present in your general railroad investigation, I shall devote myself to three of the railway topics which especially arise from the present economic situation.

I do not need to review at length that we are recovering from the destruction and inflation of the greatest war in history; that we are suffering from the waste, the extravagance, and over-expansion of the post-war boom, and that the war has brought about great shifts in the movement and price levels of commodities between nations.

I would, however, suggest that it might be profitable for our people to get a somewhat clearer perspective of our own, and the world's, troubles and problems. Even a superficial survey must bring us out of an atmosphere of gloomy introspection into an assuring realization that, great as our dislocations may seem to be, we relatively are in an enviable position. Our nation is unshaken and as a people we are getting our bearings in a world of perplexing economic adjustments. While there is unemployment and lack of profit taking, we are free of panic. We are comparatively more restless than injured. For instance as heavy as our tax burden is it is still less than one-half as great in proportion to our national productivity as the other states in the war.

The violence of our readjustment, however, is without parallel and we sometimes tend to color our measures for the future by the depression we are in. The fact is that we must predicate all plans for the future on the ultimate return of the American people to a normal economic activity, with our annual progress in the expansion of our production, of our plant and equipment, of our skill and our efficiency. There can be no question that this return will take place, and no responsible body will approach our problems on any other basis. Not one of us would submit to the charge that we were not prepared to bet against any odds upon the future of the United States. Our problem is to expedite this recovery—to speed up employment of our workers, and thereby find market for our farmers.

If we look at the national economic situation as a whole, the greatest impulse that can be given to recovery from any source whatever is a reduction of rates on primary commodities combined with the immediate resumption of railway construction and equipment. The first depends upon reduction of operating costs, the second upon restoration of credit for our railways.

One thing is absolute. Our transportation facilities are below the needs of our country, and unless we have a quick resumption of construction, the whole community—agricultural, commercial, and industrial—will be gasping from a strangulation caused by insufficient transportation the moment that our business activities resume. For the past five years we have had no consequential expansion to our railway transportation machine. With but one interval of nine months in 1918 and 1919 we had a car shortage throughout the whole of the years 1916-17-18-19 and '20. This shortage rose to as high as 160,000 cars with a corresponding shortage of motive power. We paid tremendous sums in commercial losses and unemployment in consequence. We laid it onto the war. We should lay it onto our lack of foresight and antagonism to railroads.

Railways Need 4,000 Locomotives and 200,000 Cars.

Few people seem to realize the amount of expansion in our transportation machine necessary to keep pace with the growth of the country. And an equal few seem to have any notion of the price we pay for not having it. Our country is more dependent upon railway transport than any other. All others have comparatively greater coast lines and internal waterways. The experience of the 20 years before the war has shown that we must build an extension of lines, including terminal facilities, additional sidings, etc., every year equal to the construction of a new railway from New York to San Francisco. We must add at least 120,000 cars and 2,500 locomotives annually to our equipment. Since we entered the war in 1917 we have constructed at least 10,000 miles of railways less than our increasing population and economic development called for and we are behind in rolling stock by about 4,000 locomotives and 200,000 cars.

I wish to emphasize that unless we can have an immediate resumption of construction and equipment, our commercial community will pay treble the cost of the whole of them in their losses of a single season. The very moment that we reach anything like normal business we shall see a repetition of car shortages, followed by an increase in the cost of coal to the consumer from one to three dollars a ton; we shall again see premiums of 20 cents a bushel for the use of cars for moving grain; we shall in fact see a shortage of commodities to the consumer; and we shall see gluts upon the hands of the producers. We shall see factories filled with orders again closed for lack of cars; we shall see large intermittency in employment; and we shall see the usual profiteering in commodities due to a stricture between the producer and consumer.

There would be no difficulty whatever, by basing such losses on the experiences we have already had, to calculate a loss to the American people of a billion dollars for each one of these periodic transportation shortages.

Furthermore, there is nothing that is so irrecoverable a loss to the nation as idle shops and idle men. To-day we have both. There is nothing that will so quickly start the springs of business and employment as an immediate resumption of construction and equipment of the railways. When business does resume, we shall need all of our capacity for the production of consumable goods. We shall not only find it strangled for lack of transportation, but we shall find ourselves plunging into the manufacture of this very railway equipment and construction in competition with consumable goods for materials and labor. Herein lies the basic cause of destructive price inflation and booms, with all their waste and over-expansion. In times of depression, we should prepare for the future and by doing so we can cure the depression itself.

If we examine the fundamental reasons for failure to resume equipment, we will find them in the loss of confidence in railways as an investment and the competition of tax free securities. We have passed the period of credit strain in this depression. Surplus capital is pouring by hundreds of millions monthly into tax free securities and foreign loans, and yet our railways are unable to finance the most moderate of construction programs. The confidence of the public in railway investments was at so low an ebb before the war that finance by the issue of common and preferred stocks had

*Statement before the Interstate Commerce Commission on February 3, 1922.

become impossible and railway expansion was living on bond issues. The confidence of an assurance and continuity in earning power to cover this burden of bonds has been even lowered since the war began, because of the uncertainties of both rising and falling prices, of rising and falling wages, of rising and falling rates preventing all regularity of earnings upon which an investor could be convinced, even if no other difficult factors entered into the problem. I see no occasion to go into the labyrinth of past railway finance, its propriety, or lack of propriety, its foolishness or its skill. This commission approaches the financial problems of the railways upon the actual value, not upon their issues of securities and I take it we are living for the future, not the past. We want transportation, and we want it with the values of private initiative and clean public service.

If we look to the immediate future with its complete necessity of paring the railway earnings down to little more than bond interest, until we give relief to the shipper (and thus the primary foundation to business recovery) I can see little likelihood of convincing the investor as to his margins of safety. There is an atmosphere that our railways will never again earn profits, and that they are not as an industry worthy of investment, and that because private investors will not come to their assistance nobody can do anything.

Driving Headlong for a Setback

Far from it being impossible for our railways again to return to a profitable footing, I believe it is possible to demonstrate that on an average they will become very profitable. If we assume that the reduction of prices and wage levels will settle at a plane no lower than 50 per cent over pre-war, and if we assume that the present rates are to maintain, and if we assume restored traffic, then the earnings of our railways would exceed 15 per cent on the whole of the commission's tentative valuation. Surely there is room here for safety to investment, as well as relief to the shipper.

But the circumstances being as they are, confidence being at a low ebb, we do not have the equipment necessary for our business. We are driving headlong for a setback to our whole commerce the very moment that we begin to get on our feet.

In these circumstances it seems to me vital that the railways as our greatest industry should propose a courageous program of broad visioned betterments and if necessary the government should consider giving the use of its superior credit. It would not cost the taxpayer a cent to give the government guarantee to equipment trusts upon the primary responsibility of the railways, the proceeds devoted entirely to improvement and equipment. This is no proposal to take money from the taxpayer. It is a proposal to save him from paying treble the amount of his guarantee in profiteering and losses. It will render a reduction of rates earlier, for unless something is done the improvement will have to be paid over years out of increased rates. Nor would we lose a cent upon the guarantee, for if American railways can not earn interest upon their borrowings let us throw up our hands and prepare for a second Russia.

A real program of construction would in its various ramifications give relief to five or six hundred thousand of our unemployed. It would enable even added numbers to increase their standard of living, and thus give increased market to the produce of our farmers. Our farmers who look to foreign markets for their surplus should stop to consider that our home consumption of meat decreased nearly seven pounds per capita in 1921, mostly owing to unemployment and that if this decrease could be overcome it would be worth more than a 35 per cent increase in exports.

We talk glibly of giving billions of credits to foreign countries, to increase our farm exports. I wish to say with all responsibility for the statement that a billion dollars spent upon American railways will give more employment to

our people, more advance to our industry, more assistance to our farmers, than twice that sum expended outside the frontiers of the United States—and there will be greater security for the investor.

Time to Call Off the Witches

Finally, I want to refer to the veritable witches cauldron being fed constantly with hates distilled from the misdeeds of railway promoters in the past, from the conflicts between the railways and the farmers, between the railways and their workmen. From all the confusion that arises from it we destroy our railways and destroy ourselves. With this commission on one hand assuring honesty in finance, justice to the shipper and the railway investor, with the Railway Labor Board assuring justice to workers and, above all, with a great spirit of public service in our generation of railway managers, it is time to call off the witches and take some vision of our national situation if we are to pull ourselves out of this depression.

Railway Rates

Before entering upon the question of readjustment of rates, I wish to set out some factors in the present economic situation that bear upon the entire question.

The following table shows a few commodities and service groups, compared to 1913 as 100:

Farm crops, at the farm.....	98
All animals, at the farm.....	92
Retail food stuffs.....	150
Cotton, at the farm.....	136
Wool, at the farm.....	101
Retail clothing.....	213
Steel billets, Pittsburgh.....	113
Copper.....	86
Zinc.....	90
Pig iron, Pittsburgh.....	128
Bituminous coal, at the mine (estimated 4 districts).....	160
Bituminous coal (retail various localities).....	198-220
Yellow Pine Lumber (at the mill).....	189
Douglas Fir Lumber (at the mill).....	125
Lumber (retail partly estimated).....	200
Cost of Living variously estimated from Wage Scales (approximate).....	162-180
Farm labor.....	135
Textile industries.....	210
Steel industries.....	150
Railways.....	200
Metals trades.....	218
Building trades.....	126
Coal mining scales.....	173

This table at once demonstrates:

- (1) The inequality in prices and wages between different groups of commodities.
- (2) The great increase in spread between "producer's" and "consumer's" goods.
- (3) The lag in wage scales.

As the population engaged in the "deflated" producer's goods—agriculture, and metals, wood, etc.,—comprises one-half the total in number of the nation, their power to buy the same ratio of consumer's goods has been reduced to less than 70 per cent of pre-war, and is the consequent cause of a large part of the industrial and commercial unemployment and stagnation in our cities and our transportation.

Spread in Prices

I wish to especially call your attention to the indicated enormous increase in spread between primary producer's and ultimate consumer's goods. In considering it, we must bear in mind that when we use 100 for both consumer's and producer's goods of 1913, we have already included the spread between producer and consumer at that period. I therefore believe that the index numbers indicate an increase of 100 per cent in the actual spread. It is right here where the most of our economic difficulties lie today. Our increased cost of manufacture and distribution bears two relations to the rate question—first, that the increase of rates of from 30 per cent to 100 per cent in different commodities are part of it, and are in turn part caused by it; and second, the increased rates bear very unequally on different groups in the community.

If we search for the cause of this increase of spread we shall find therein a vast complex of increased taxation, increased wages, rents, and a dozen items, all reacting upon each other, and also expressing themselves in increased cost of operating the railways. For instance, the total increase in national, state and municipal taxes since 1913 is approximately \$5,640,000,000. At the present purchasing power of the dollar, our total national productivity is probably somewhere around 50 billions of dollars, of which over 10 per cent must now be devoted to increased taxes. This sum of money must be obtained either from the producer or the consumer and in any event a considerable part of the taxes contributes to widen the spread. Because the increase in spread due to taxes necessitates a spiral of increased wages, rents, etc., and before its force expends itself my own opinion is that possibly 20 points in the distorted index number flows from increased taxes.

The increase of railway rates since 1913 in Class I railways to 1921, is about \$2,600,000,000, of which about \$1,400,000,000 are due to wage increases and about \$160,000,000 to tax increases. If our traffics were normal the total increase of rates would be more like \$3,500,000,000. These sums enter into this increase in the spread and carry with them a further trail of increased living costs and again a spiral of higher wages, rents, etc., in all other branches of manufacture and distribution.

There are other causes of the increased spread, some of which will be mitigated with time.

No one can say to what particular table-land of prices and wages we may settle upon, but it is a certainty that the exchange value of producer's goods will not again line up with consumer's goods unless we can decrease the costs and eliminate the wastes of our whole manufacturing and distribution trades. And unless we can secure their nearer proximity we will retard a return of employment and prosperity.

I wish to digress for just a moment from railway to agricultural subjects, to point out that the recent project for fixing farm prices by law are apparently founded on the notion that by raising agricultural prices up to the levels of consumer's goods we can remedy the extreme hardship of our farmers. Even if it be possible to raise the prices, much less advantage would accrue to the farmer than anticipated. Unless the "spread" is decreased by actual savings, the costs of manufacture and distribution would be at least partially increased by higher prices of producer's goods. The spread is fundamentally due to increased cost of manufacture and distribution, not to the fall in producer's goods. The real remedy is an attack upon the causes of the spread and thereby to bring consumer's goods down to the producer's buying power.

It is a certainty that in order to decrease the spread, railway rates must come down and for rates to come down costs of railway operation in wages and prices of supplies must be reduced. Until this adjustment is secured the economic machine will continue to move slowly. We cannot and should not expect wages to come back to pre-war levels. Many of our wage scales were too low in pre-war times. They can follow down step by step with the cost of living, but there are permanent charges in this spread, such as taxes, which will hold the cost of living above pre-war levels. We must gain our other reductions in the spread by increased national efficiency.

The Method of Readjusting Rates

The involved complex of transportation rates was obviously originally based on some relationship to the value of commodities, mitigated by competition. In other words, the old slogan of "what the traffic will bear" had some economic background. But this entire conception of ratemaking was destroyed by horizontal raises. We have rates clearly beyond what the traffic can bear.

The increases in railway rates during the past five years have fallen with extraordinary inequality on different commodities and different groups of people in the community. The country grew up, its industries were distributed under ratios of costs between different commodities, ratios between raw materials and finished goods, ratios between the farm and city. These have all been distorted by the horizontal rises. The increases in rates since 1914, for instance, have added probably less than 1 per cent to the price of cotton goods on the average haul but it has added probably 60 per cent to the price of coal. The increased rates since 1914 have added nearly 100 per cent to the cost of assembling the materials for pig iron.

All this is artificially forcing our industry to move toward their raw materials. This does not alone represent the starting of a new factory; it is a movement of the whole mechanism of the community, labor, homes, schools, railways and whatnot—an enormous duplication of plant and loss of capital. We will ultimately have the rates readjusted and then we will destroy the new industries created under it.

Of equal importance there is a new economic light on this distortion of rates evident under the stress of the last few years. That is, the better realization that some increases of rates come mostly off the producer while others are paid by the consumer. Increases in spread between producer and consumer do not fall equally upon each of them. In primary commodities where the price is fixed by international competition, the increase or decrease in rates is a deduction from the producer. Take wheat, for instance, the point of competition with foreign produce lies at Liverpool. The net to the producer is Liverpool less transportation and other handling charges. Therefore increases of rates are a deduction from the farmers' price. The same thing applies to the producer in certain cases of domestic competition. Also where there is rapid turnover, as in manufacture, and consequent ability to reduce supply, the consumer pays the freight, as processes of productivity will not continue below profit point. In most manufactured commodities the consumer pays the freight, for production quickly shrinks when prices at the factory become unprofitable and the price to the buyer is the factory price plus the freight. For instance, in hides, the farmer gets the international price less freight. On boots he pays the manufacturer's cost, profit and freight.

It appears to me that with the paralysis induced by the increased spread, we have to take a broader vision of what part of the community is suffering most and direct such concessions through the railway rates as can be given to that group—if we would better equalize the whole economic load.

During the past eight months the railways have made many thousand readjustments of local rates in endeavoring to heal local distortions, but I am convinced that the whole railway rate structure needs a most systematic overhaul in the light of these new economic forces that have been brought into play.

We obviously must maintain the average rate that will support our transportation systems adequately and such an overhauling of rates might quite well mean the advancement of rates in certain commodities in order that compensation can be given to others where there is undue duress.

If I were to discuss the rates charged today I should say at once that a decrease in passenger rates is not nearly so vital to the community as freight rates, for passenger rates do not enter into the "spread" in proportion to the relative volume of earnings. If I were examining the freight rates I should at once say that coal, metals, wood, and agricultural and other producers' goods should be reduced to the bottom before l. c. l. and class rates are touched.

I would be willing to go even farther and say that I am convinced that even if the commission cannot at the present moment justifiably reduce railway incomes a single dollar, it is warranted in investigating the possibility of some relief

to the more distressed commodities by a revision of some rates upward. There is perhaps no great field for changes in this direction but it is worth inquiry. As mentioned above, an economic analysis of our industry will show that l.c.l. and class rates are far too low compared to the rates on primary commodities.

With the gradual return of the traffic to normal, with decreased operating costs, relief in rates will be available, and it would be an economic crime to apply such relief by horizontal reductions to all rates thus giving relief to higher priced goods and travel, when the vital mainspring of our economic life, our agriculture and fuel and metals are choked.

The Present Rate Situation

Determination of anything in the nature of permanent rate basis is in my own view impossible at the present time because:

The last five years of changing administration, irregular traffic and wildly fluctuating wages and prices of materials give us but little reliable historical criteria upon which to base the future. We are in the midst of violent economic readjustments, of a profound industrial depression. No one can determine to what plane the reduction in operating costs will settle. No one can estimate the volume of traffics that are probable for any particular period ahead. It appears to me, therefore, that the commission will need to temporize with the situation for some time, and that its conclusions may well fall into three periods:

First—The immediate present.

Second—During the early period of decreasing costs and increasing efficiency and slowly recovering traffics.

Third—Normal operations.

THE IMMEDIATE PRESENT

If we survey the results of the past year in the application of present costs and rates, we find many railways failing to earn interest upon their borrowed capital; we find some others more fortunately situated who have earned dividends on their share capital.

One or two exceptions of low bonded indebtedness have done extraordinarily well on their share capital. If we survey the situation by districts, in order that single instances do not mislead us, we will find that the whole of the Class I southern roads barely covered bond interest, while the most fortunate group, the western roads, show an earning of only four per cent in 1921 upon their tentative valuation. Moreover, it is obvious that maintenance has been held to a low level and new equipment and extensions practically nil.

The present earnings in their perilous closeness to bond obligations seem to me to dispose of the question of immediate important rate relief, if we do not wish widespread receivership and shocks to our whole commercial fabric.

I believe there are cases where earnings could be increased by lower rates. I know that it is contended that such opportunities do not exist, but no one can review the testimony given here during the past few weeks without concluding that the rates in special instances are stifling business. These directions are perhaps not important in the whole problem of rates, but I am convinced that lower rates would recover lost traffic, such as export coal, substitutions in building materials, gains in water competition, etc.

THE SECOND PERIOD—DURING 1922

We must assume that those railway wages and supplies which are out of line will at least in part follow down to the levels of decreased cost of living; we must assume that the efficiency that is slowly emerging after the government management will still further increase; we must assume that the volume of traffics will increase toward normal.

I have the feeling that the railways, being our greatest

business, will agree that all these savings should be instantly devoted to relief in the rates on primary commodities in order that we should expedite the recovery that can only come through decreased spread between producer's and consumer's goods.

I recognize that the uncertainty and slow reduction of rates in this fashion will itself delay business recovery because of the uncertainty of business as to its future costs. If our railways were in position to stand the temporary shock it would be infinitely better to drop the rates on primary commodities tomorrow—our business recovery would come faster. But we cannot ask the impossible.

THIRD

If we look further to normal times, we could make a rough calculation that present wages and costs at say 50 per cent above pre-war would show that the railways can earn somewhere around \$1,500,000,000 in excess of the six per cent minimum upon tentative valuation. As I have stated, relief is first more critically needed in the rates on primary commodities.

Some estimates given to me indicate that approximately 35 or 40 per cent of revenues are involved in the groups more urgently needing relief. I think it will also bear calculation that in the income assumed above primary commodities can eventually be reduced to pre-war rates, and still place earnings upon a basis that will inspire such confidence in investors as will secure the free flow of investment capital into construction. It is not to be expected that capital for these purposes will be available at the rate that does not exceed the taxfree securities at least two per cent to three per cent.

Efficiency of Railways

A great deal has been said about the inefficiency of our railway system. I do not sympathize with these statements. Comparison with foreign railways of the fundamental criteria of per ton-mile costs, train loading and so forth, in the light of our cost of living, will demonstrate that our railways are of higher standards, better in methods than others and are growing in efficiency.

The consolidation of our railways into larger systems has been contemplated in our legislatures for some years past as a gain in efficiency. Its value can be overestimated—it is not a panacea for all trouble. It does give hope, however, of economies in further efficiency from more complete utilization of rolling stocks and terminals, some small degree of saving in overhead, saving in current inventories; but its probable great saving would be decreased cost of proper finance, increased financial stability and fuller independence from the supply companies.

It is probably unnecessary to refer to the question of government ownership. No one with a week's observation of government railways abroad, or with government operation of industry in the United States, will contend that our railways could ever be operated as intelligently or as efficiently by the government as through the initiative of private individuals. Moreover, the welfare of its multitude of workers will be far worse under government operation.

We are struggling with the great problem of maintaining public control of monopoly, at the same time maintaining the initiative of private enterprise. I believe that we are steadily progressing to solution.

Great social and economic problems find their solution slowly and by a process of trial and error. We have tried unregulated monopoly, and have tried government operation, and found the error in them. We still have much to solve if we are to maintain our transportation. Much of this solution depends upon the successful initiative of the railways themselves and much of the shaping of these matters lies fortunately in your able hands.

The I. C. C. General Rate Investigation

Commission Concludes Hearing on General Aspects of Case— Testimony of Secretary Hoover, Pullman Company, Etc.

WASHINGTON, D. C.

THE INTERSTATE COMMERCE COMMISSION on February 4 concluded that part of its hearings on the general aspects of the rate case from the point of view of representatives of the public and shippers interested in rates generally rather than those on particular commodities. An adjournment was taken until February 8 to allow two days for the conferences which the commission holds at the beginning of each month.

The feature of the hearing during the past week was the statement made by Secretary Hoover of the Department of Commerce, who appeared at the invitation of the commission on the suggestion of the Chamber of Commerce of the United States, to give his views as to the railroad and rate problems. Mr. Hoover's statement is printed in full elsewhere in this issue. He did not attempt to give direct advice as to how rates should be adjusted, although he said that rates on primary basic commodities should be reduced as soon as possible and if they cannot be reduced without reducing the income of the railroads the commission would be warranted in investigating the possibility of some relief to the more distressed commodities by a revision of some rates upward.

Before discussing rates, Mr. Hoover emphasized strongly the necessity for an adequate return for the roads to encourage the development of adequate railroad facilities so that they may be able to handle the normal volume of business which is to be expected. He pointed out the enormous losses to the public which result from the periodic shortages of transportation and declared that such shortages in the past should be attributed not to the war but to "our lack of foresight and antagonism to railroads." Obviously, therefore, he said, we must maintain the average rate that will support the transportation systems adequately. He believed that there are cases where earnings could be increased by lower rates but said that complete relief must await a further period of gradual readjustment and it would be "an economic crime" to apply a horizontal reduction.

Mr. Hoover's appearance attracted a large audience to the commission's hearing room and the expressions heard afterward indicated that nearly all the various elements in it found something in his statement to approve. Paul A. Walker, representing the state commission group, arose and said Mr. Hoover's statement was "the best thing he had ever listened to" and asked if it might not be printed for wide distribution.

Hoover Cross-Examined by Thorne

Clifford Thorne cross-examined Mr. Hoover, but the secretary declined to admit that he did not know what he was talking about because he had not brought with him all the figures on which his conclusions were based. He offered to send them to Mr. Thorne if he desired them. Thorne began by asking the witness if he had the idea that the proportion of bonds to stock was greater than it was 10 or 15 years ago. Mr. Hoover said no, but he believed it is too high and a high proportion of bonds gives less flexibility to the whole economic situation than is desirable. The higher the proportion of share capital, he said, the better.

Mr. Thorne asked if he did not know that most of the railways were financed by giving stock bonuses with the bonds.

"Oh, yes, I have been hearing about that ever since I was a boy," replied Mr. Hoover, "but we have got to live for the future and not rehash the past. I believe the present amount of stocks and bonds is less than the tentative value fixed by the commission. We are faced with a practical question and

the commission is dealing with value, not the mass of paper in the markets."

Mr. Thorne then asked his favorite question as to whether the railways are not earning as good a return and are not able to raise capital on as favorable terms as industrial and public utilities.

"I don't consider the comparison between the returns of the railways and other industries a fair comparison," said Mr. Hoover, "but the practical fact is that the railways have been unable to secure capital in competition with other industries and tax free securities." He added by way of illustration that the director-general of railroads has a large parcel of very good 6 per cent railroad securities which he would like to sell and he has been able to "peddle out" some of them during the past six months, but not enough to finance the requirements for new equipment for one month. The question is not whether railway securities can now be sold as easily as industrial securities, he said, and public utilities are in much the same condition as the railways.

Mr. Thorne, who numbers among his clients the National Wholesale Grocers' Association, asked if Mr. Hoover was aware that large advances had been made in l.c.l. rates on food articles since the war. He replied that only a very small percentage of food products moves l.c.l. When Mr. Thorne asked if he had made any analysis of the canned goods and other food products that moved l.c.l. as compared with the carload movements, Mr. Hoover said he had made enough of an analysis to know that it would be better for the farmer to have a reduction in his primary rates than in l.c.l. rates.

Pullman Company Objects to Surcharge

L. S. Taylor, vice-president and comptroller of the Pullman Company, presented a statement on February 3 to show that the application of the commission's order in Ex Parte 74 providing for a surcharge to accrue to the railroads amounting to 50 per cent of the charge for space in sleeping and parlor cars had caused an immediate marked reduction in passenger traffic in Pullman cars, and a consequent serious decrease in revenue, not only to the Pullman Company but also, as the company believes, to the railroads, and which has continued since that time.

He presented a statement of gross revenue by months from May 1, 1920, to October 31, 1921, showing a reduction in revenue in September, 1920, as compared with August, 1920, amounting to \$1,418,057.54, and a further decline in October and succeeding months. This decrease between the two months named amounted to 15.43 per cent, whereas over a series of years from 1917 to 1921, inclusive, there was a variation between those two months of less than 1 per cent, except in 1920, when the decrease amounted to 15.43 per cent in September, the first month after the surcharge took effect. In 1917, 1918 and 1919 there was a variation of only \$23,000 to \$33,000 in revenue between August and September; in 1920 the decrease in September under August was \$1,418,000, while in 1921 the variation was again normal, amounting to less than \$25,000.

"It necessarily follows," Mr. Taylor said, "that some change of importance seriously affecting travel caused the immediate marked drop of \$1,418,000 in September, 1920, as compared with August, 1920, and no other explanation can be offered than the application of the surcharge at that time. A new lower level of revenue then resulted which still further declined in succeeding months, and while the general business depression throughout the country had its influence on

the further decline, the fact remains that the sudden decrease of more than 15 per cent at that time, not noticeable in any other year, was coincident with the application of the surcharge.

"As further illustrating the change taking place at that time in traffic conditions, a statement of passengers in Pullman cars from August, 1920, to November, 1921, inclusive, has been compiled. There was a reduction of 17.05 per cent in number of passengers in September, 1920, as compared with August, with increased percentages of reduction in succeeding months. Such reduction was not reflected in car miles, the decrease in car miles being much less than the decrease in number of passengers. This shows that the number of cars operated has not decreased in proportion to the decrease in number of passengers and in revenue. At the same time, the expenses per car have remained fully as great, and operating expenses have not decreased with the decrease in operating revenue.

The 1918 Surcharge

"The commission's report in Ex Parte 74 states that The Pullman Company opposed the re-establishment of the surcharge on the ground that it would reduce travel in Pullman cars, and referred to the showing made by the company with reference to the surcharge imposed by the director general in 1918. A further study of the effect of the surcharge at that time shows that the marked falling off in travel in Pullman cars in June, 1918, was followed by a perceptible increase in December when that surcharge was taken off. Attention is invited to the statement submitted showing comparisons of revenue of the month of June with the revenue of May for a series of years. Normally there is always some increase in June on account of summer tourist travel. The exhibit shows increases in June over May for the years 1915 to 1921 varying from 10 to 20 per cent, with the exception of 1918 when the surcharge was in effect from and after June 10, and in that month there was a decrease of 6.24 per cent. That is, instead of a normal increase of at least 10 per cent there was a decrease of more than 6 per cent, or a total decrease of more than 16 per cent as compared with 1917, and of 20 to 25 per cent as compared with other years shown on the statement. The actual decrease in revenue for the one month in 1918 was at least three-quarters of a million dollars. And this decrease continued throughout the time the surcharge was in effect.

"The 1918 surcharge was taken off November 30 of that year. A comparative statement of revenue of December with that of November, for the years 1915 to 1921, is also submitted. This shows that normally there is some increase in December over November due in part to increased travel on account of the Christmas holidays. The increase varies from less than 1 per cent to 16 per cent, except in 1918, when in December, the first month after the removal of the surcharge, the increase was 39.67 per cent, more than double that of any other year. The increase in gross revenue was between \$800,000 and \$900,000 over the normal increase of the month of December as compared with November, and more than a million dollars greater than the normal increase in that month in any year since.

"Plainly, these figures cannot fail to show that the imposition of the surcharge caused a very noticeable decrease in travel in Pullman cars, and we believe in passenger travel generally, during the time the surcharge of 1918 was in effect, with a repetition of the same decrease in travel at the time the surcharge of 1920 was imposed, which has continued to the present time. The consequent loss of revenue to The Pullman Company since August, 1920, without possibility of corresponding reduction in expenses has resulted in a net operating loss.

Sleeping and Parlor Car Business Shows a Loss

"The net results from operation of The Pullman Company's sleeping and parlor car business for the year ended October 31, 1921, shows a loss of \$2,856,702.80, against a capital investment in that portion of its business much in excess of \$100,000,000. This does not mean a decrease in revenue of that amount, but an actual loss, an excess of expenses over income. The operating ratio for that year was 99.65 per cent without taxes; including taxes, the ratio was 104.45 per cent.

"The company has not found it possible to reduce operating expenses to meet the constantly decreasing revenue. One of the principal reasons is that the decrease in the number of cars operated has not been in proportion to the decrease in gross revenue

and passengers carried. The expenses per car have not decreased; in fact, during the last months of 1921 the expenses per car increased, notwithstanding reductions in wages, on account of additional heavy repairs after the close of the summer season.

"The decision of the United States Railroad Labor Board authorizing a reduction in wages of employees effective July 1, 1921, has resulted in the saving of only a small proportion of the very large increase in the company's payroll expenses of the past three or four years.

For the year ended December 31, 1917, The Pullman Company's operating department payrolls (this includes only the sleeping and parlor car business) aggregated..... \$16,977,543.04
For the calendar year ended December 31, 1920, they were.... 32,986,260.12
For the calendar year ended December 31, 1921, they were... 30,676,821.76

"To show the situation with respect to reductions in wages more in detail a statement of decreases in operating expenses due to reduction in force or reduction in wages is attached. This gives the increase in wages in June, 1921, over June, 1920, as showing the effect of the increase of July 1, 1920. It also shows the decrease due to reduction in force and reduction in wages during the last five months of 1921 as compared with the corresponding months of 1920. The average of these five months in reduction due to reduction in wages amounts to \$153,000 a month or approximately \$1,800,000 a year. That is, during the last five months of 1921 the decrease on this account was at the annual rate of about \$1,800,000 a year. The reduction in force, varying from 2,400 to 4,100 employees in different months, was largely due to the decrease in business.

Pullman Revenue Reduced \$1,000,000 a Month

"The decrease in passenger traffic in Pullman cars since the application of the surcharge in 1920 has resulted in a reduction of revenue to The Pullman Company of about \$1,000,000 a month. The average reduction in number of revenue passengers has been over 600,000 passengers a month. The average distance traveled by passengers in Pullman cars is over 360 miles, year by year, or nearly 10 times the average distance traveled by all passengers on all railroads, according to well known statistics. It is obvious that a decrease of this extent must have had a material effect on rail transportation, partially offset, of course, by the amount of revenue derived from the surcharge accruing to the railroads."

Commissioner Aitchison asked Mr. Taylor if he had any opinion of the comparative merits of the plan of selling a separate ticket for the surcharge at half a cent a mile that was used by the Railroad Administration and the present plan of adding the surcharge to the price of the Pullman ticket. Mr. Taylor said the present plan creates antagonism because the public thinks the Pullman Company gets the money, but when Mr. Aitchison suggested that this be weighed against the fact that the public found the former plan an "infernal nuisance" he said the convenience of the public must be given first consideration. Commissioner Esch asked whether any of the railroads desired to have the surcharge taken off. Mr. Taylor said he thought a number of roads feel it should come off.

Discussing the operating expenses of the Pullman Company, Mr. Taylor said that maintenance expenses were very heavy last year, partly because the company had had to rebuild a large number of steel cars that were less than 10 years old. The principal cause, he said, was corrosion. Some of the trouble was probably due to the fact that when the first steel cars were built the necessity of protection against climatic changes was not well understood. "Some of our people thought the steel cars would last 50 years," Mr. Taylor said, "but our experience indicates that a steel car has not the life of a wood car."

Mr. Taylor said his company thought that about half of the falling off of Pullman travel was due to the surcharge and the other half to business depression. He was convinced that the railroads are losing twice as much money as a result of the surcharge as they are making by it.

E. A. McElroy, representing the National Retail Drygoods Association, comprising 2,200 stores, presented a petition to the commission urging a general horizontal reduction in rates, saying it was believed that this would benefit the railroads. He presented the results of a questionnaire addressed

to the members, saying 99 per cent of the replies were in favor of a reduction in rates and 86 per cent in favor of a general reduction.

F. H. Wood, representing the roads, asked whether retail prices had been reduced as much as wholesale prices. The witness replied that retail prices had come down more than wholesale prices and proved it by saying that silk stockings have come down from \$2.50 to \$1.00.

State Commission Wants Fares Reduced

A number of representatives of the state commissions who testified on February 2 and 3 seemed to be more interested in a reduction in passenger fares than in freight rates, although they also urged freight rate reductions. In addition to trying to show that passenger rates are too high, they had a large amount of statistical testimony to show that the railways are more prosperous than they are willing to admit, and they were especially optimistic in building up constructive years to show that on the present basis of rates and wages the railroads will soon be earning more than 6 per cent. One set of exhibits showed that during the year ending October 31, 1921, after adjusting for present rates and costs, the southern roads would earn 6.75 per cent, the eastern roads 8.06 per cent, and the western roads 6.34 per cent. Exhibits were also made up to show that the railroads have not curtailed their maintenance unduly.

Constructing a Valuation on Reports of

10 Per Cent of the Mileage

Fred Pettijohn, vice-president of the Roberts-Pettijohn-Wood firm of accountants, testified on February 3 and 4 as a witness for Clifford Thorne and presented exhibits to show the returns earned by the railroads on a valuation made by applying to the property investment accounts of 1921 the percentage of the railroad property investment accounts shown by the final values as reported by the commission in the tentative valuations of 182 roads. On this basis he arrived at a valuation for all the roads of \$16,000,000,000 as compared with the figure of \$18,900,000,000 used tentatively by the commission for the purposes of the 1920 rate case.

Fred H. Wood, of the Southern Pacific, said that if the purpose was to attack the commission's valuation, he would feel compelled to lodge an objection, as the issue was not pertinent to this case, the commission having already denied motions to reopen Ex Parte 74.

Mr. Thorne denied that he intended to "attack" the valuation, saying he wished only to submit "additional cumulative evidence" on the subject, as the commission has served many tentative valuations since 1920. After some discussion Commissioner Hall ruled that the witness might answer the questions and present his figures. These showed a ratio of final value to property investment of 73.3 per cent.

Commissioner Aitchison, however, pointed out that the valuations were as of various dates back as far as 1914 and that no adjustment had been made for additions and betterments since. "If there was inflation in the property investment account as of the valuation date," he said, "you have assumed a similar inflation in the money spent since, instead of allowing the full amount of the additions and betterments."

The witness replied that this was so but that his figures represented a fair approximation. Mr. Aitchison pointed out that the New York, Ontario & Western property account as shown in the tentative valuation was \$92,000,000 as against a final value of only \$44,000,000, and that, therefore, if the road had spent \$10,000,000 since it would have been allowed only about half of it. Mr. Thorne said that the purpose was to get an approximation and that if it were desired the figures would be adjusted.

On cross-examination Mr. Wood brought out from the witness that the 182 tentative valuations represent only about

10 per cent of the total mileage and asked if he thought these figures represent a reliable guide to the total. With certain corrections suggested by Mr. Aitchison, Mr. Pettijohn said he thought they were. Mr. Wood then pointed out that the New York, Ontario & Western report was served only about a week ago and asked what the percentage for the eastern district would have been without that report. The witness replied that the inclusion of that road had reduced the eastern percentage from about 80 to 72. Similarly, it was shown that the exclusion of the Rock Island report in the western district would have reduced the percentage from 71.2 to 54.7.

"Would your study have been equally reliable and valuable if it had been made a week ago without the New York, Ontario & Western?" asked Mr. Wood. The witness replied that it would have been fair in including all the reports available, but as to whether 10 per cent of the mileage is representative or not "only time will tell."

"I think we can agree that only time will tell," said Mr. Wood. "Then do you still think that the conclusions you have reached from 10 per cent of the mileage have any great value as against the commission's tentative valuation for all the roads?"

"They are the best available figures I know of," replied Mr. Pettijohn. He said he had not read the statements made by Commissioners Hall and Clark in testimony before committees of the Senate regarding the methods used by the commission in reaching the \$18,900,000,000 figure.

Mr. Pettijohn also had exhibits regarding the maintenance expenditures of the roads, to show that they had not been unduly curtailed as compared with previous years. He also had exhibits comparing the efficiency of labor on the basis of ton-miles per man-hour.

H. W. Bikle asked if the increase in ton-miles did not rather reflect the results of the increased traffic, the heavy loading campaign and the efficiency of management rather than the efficiency of the employees. Mr. Pettijohn replied that management undoubtedly entered into it.

Reed Speaks for the Kansas Commission

Clyde M. Reed of the Kansas Public Utilities Commission, took the stand with a number of exhibits prepared jointly for the state commissions and Mr. Thorne to show the comparative yields on railroad, industrial, public utility, and government securities, together with other similar information intended to show the comparatively good credit of the railroads. Another exhibit showed a reduction in the mileage of railroads in receiver's hands from 37,353 in 1916 to 14,502 in 1921. Other exhibits showed large increases in the failures and liabilities in business in 1921 and the net losses of a number of prominent industries.

Mr. Reed said that farm prices had been deflated to an amount estimated by him as aggregating seven billion dollars, and that farm operations were now and had been conducted at a loss. He pointed out that the business failures in 1921 aggregated 19,982, a larger number than has occurred in any year in the history of the country. The total liabilities involved in the failures of 1921 amounted to \$750,300,000. This sum has doubled the liabilities of any previous year, with one exception. In the face of the most disastrous year in American business, Reed pointed out that the railroad mileage in the hands of receivers at the close of 1921 was the smallest of any year since 1912, and less than half of the receivership mileage in 1915, 1916 and 1917.

Some of the strong railroads made their full return in 1921, he said, and the railroads as a whole made some return in that year, as contrasted with the general losses sustained by farmers and business men, and enormous losses shown in the operations of such industrial concerns as Armour & Co., Swift & Co., Sears, Roebuck & Co., Cuba Cane Sugar Corporation, Consolidated Gas Company of New

York, Fisk Rubber Company, Firestone Tire & Rubber Company, and others.

Quoting such financial authorities as *Bradstreet*, the *Commercial and Financial Chronicle* of New York, the *Harvard Review of Economics Statistics*, Mr. Reed claimed the railroads were able to borrow money and float refunding and new securities at a lesser rate of interest than public utilities or industrial concerns. The 1921 capital flotations of long-time securities for railroads carried 5.30 per cent, as against 6.66 per cent for public utilities, and 7.10 per cent for industrials.

"As a matter of fact," Reed stated, "the decline in the value of railroad securities as related to the net rate of return was not materially greater than government bonds, with particular reference to the Third and Fourth Liberty Loan issues. At the close of 1921 railroad securities were in as good a relative position as the government securities named." He pointed out that in 1921 the railroads, for new capital purposes and to meet maturing obligations, issued \$655,289,500 in securities, which were absorbed by the market. This was more than one-fourth of all the capital flotations in 1921, and these securities were floated at a lower rate of interest than securities of industrial, public utilities and other concerns. Reed claimed that railroad credit had not been impaired.

Pointing out that the tractive power of locomotives now on American railroads had increased 60 per cent since 1910, and that the carrying capacity of freight cars had increased 20 per cent, Reed claimed that the railroads were not candid with the country in constantly conveying the impression that railroad facilities were inadequate. "Car shortages have occurred and will occur again," he said, "but the fact is that the peak loads of the traffic in 1918 and 1920 were higher than the normal tonnage is likely to be up to 1929. Therefore, altogether too much emphasis is being laid by the railroads upon their new capital needs. Their refunding needs for the years 1922, 1923 and 1924 aggregate only \$207,000,000, as against \$302,000,000 in the year of 1921 alone. There has been much misunderstanding in the country on the railroad financial standing, much of which has been fostered by the railroads for the purpose of creating a public sentiment that will sustain the high rates now being charged for the transportation of passengers and property."

One point upon which Reed laid emphasis was the comparison of American and English railroad rates. President Willard, of the Baltimore & Ohio, had referred to the lower rates charged for the transportation of freight in the United States as compared with England. "There is no proper basis of comparison and the impression that American rates are lower is wrong," Mr. Reed said, "for two reasons: First, the average haul per ton in England is less than 60 miles; in the United States it is 325 miles. Therefore, the average rate charged per ton-mile on distances so widely apart has no significance.

"Secondly, it is not true that American freight rates for the same length of haul are lower than English rates. On the contrary, they are substantially the same, the American rates being a trifle higher."

Mr. Reed did not state definitely what percentage he thought the commission ought to allow as a fair return after March 1. Commissioner Aitchison asked if he had ever heard of any court or commission fixing less than 6 per cent as a fair return. He said he had not but that the roads had never got above 6 per cent before the war, yet they had built up the greatest railroad system in the world, but he said the fact that much of the outstanding capital of the roads carries only about 4 per cent should be considered and it is not necessary to fix the rate on the basis of the cost of new money.

A point of view considerably different from that presented by most of the shippers was given by R. C. Fulbright, representing the Southwestern Traffic League.

"We do not believe this commission should undertake to compel the carriers to reduce rates generally, or on any given commodity, merely because shippers generally or the shippers of such commodity are not prospering," said the witness. "However great may be the economic demand for the reduction of rates, we believe this commission should see that any reduction is a logical one from a transportation standpoint in order that the rates may be reasonable, just and non-discriminatory.

"There is a distinction between the considerations of economic questions which bear upon traffic and those which affect the public welfare more generally. For example: The commission has always permitted a showing of an economic situation in so far as the same bears upon the question as to whether or not traffic will move under a given set of rates, or upon the question of whether or not the adjustment of the rates as such, unduly restricts the movement of traffic. It has also given consideration to production, consumption, and distribution for the purpose of ascertaining the character and volume of traffic at a given time or that which may be expected for a future period."

Mr. Fulbright said he believed it was fallacious to plead for reductions in rates on certain commodities because of the prostrate condition of the industry producing such commodities. He continued:

When once the commission orders a rate reduction on the ground that the shippers interested in such rates are losing money and need help, the door will be at once open to the plea of all who feel that they are in any way oppressed. When once the public concludes that this commission will order freight rate reduction to relieve economic distress, the door will be open to every kind of public pressure which may be invoked by various classes of the shipping and consuming public. We will rapidly pass into an era where political issues will be framed upon agitation for reduced freight rates.

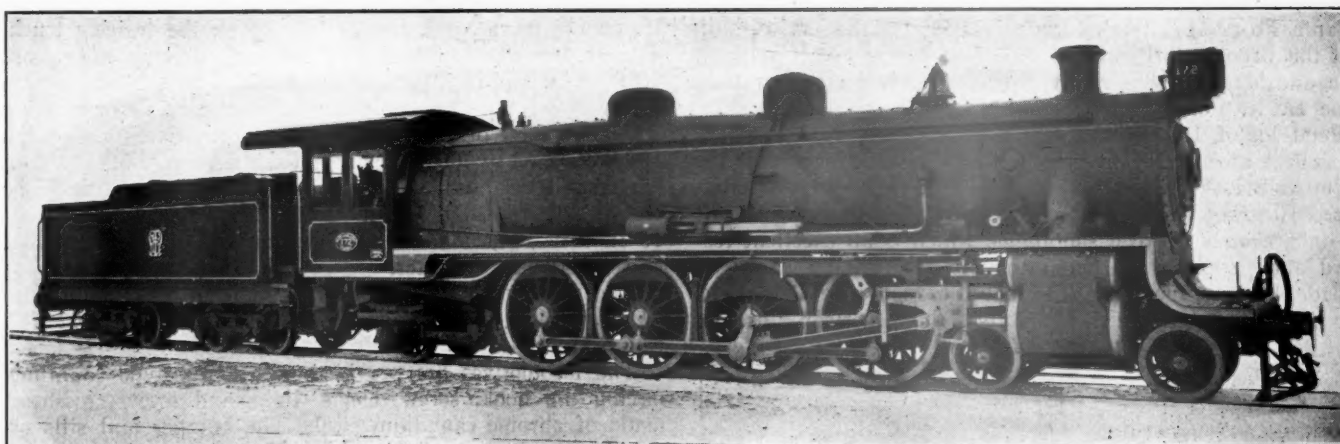
I am surprised that representatives of the carriers have indicated that this proceeding is primarily an economic case. Such would be a most dangerous precedent and undoubtedly would lead to political interference, to the great detriment of the transportation system.

I have made this statement to the end that there should be no misunderstanding of our position in introducing certain economic testimony in this case. Let it be understood at the outset that our position is that freight rates should be reduced only so far as there is a reasonable outlook for a resumption of normal traffic and a reduction of operating expenses. I will go further and say that if we could not normally expect a greater traffic than that handled in 1921 or a reduction of operating costs below the level for that year, most assuredly no general reduction of rates should be undertaken.

We believe that there can be a general reduction of rates in western territory without impairing the carriers' revenues in the future. There are many fallacies in the case which has been presented by the railroads, but most of these should be pointed out in argument rather than brought to your attention during the taking of testimony.

I cannot refrain from calling your attention to the fact that the carriers have predicated this case upon a constructive year which represents the lowest ebb of traffic for a period of several years, and at a time when general deflation has resulted in paralyzed industry. It also is shown by their own testimony that by reason of their method of charging in materials when they are applied to maintenance or operation at the average price of all such materials then in stock, the operations for the constructive year have been virtually upon peak prices. This is well illustrated in their exhibits as to coal prices, coupled with their testimony that coal may now be obtained at practically one-half the average price shown for the constructive year. The same is true as to labor costs for two-thirds of the constructive year. Great saving has already been effected in these costs and large additional savings should be effected when the present applications of the carriers for further reduction of labor scales are acted upon.

The interests represented by me believe that a general reduction, if not more than 10 per cent, would of itself greatly stimulate development of traffic in the southwestern territory. This is not necessarily true as to every commodity, but it is true as to numerous commodities and class traffic generally. The very fact that railroad rates are virtually at their peak, while other costs have been greatly reduced, creates the conviction on the part of the shipping and buying public that it is only a matter of a short time until reductions will be made, and there is a disposition to buy only as absolute necessity requires.



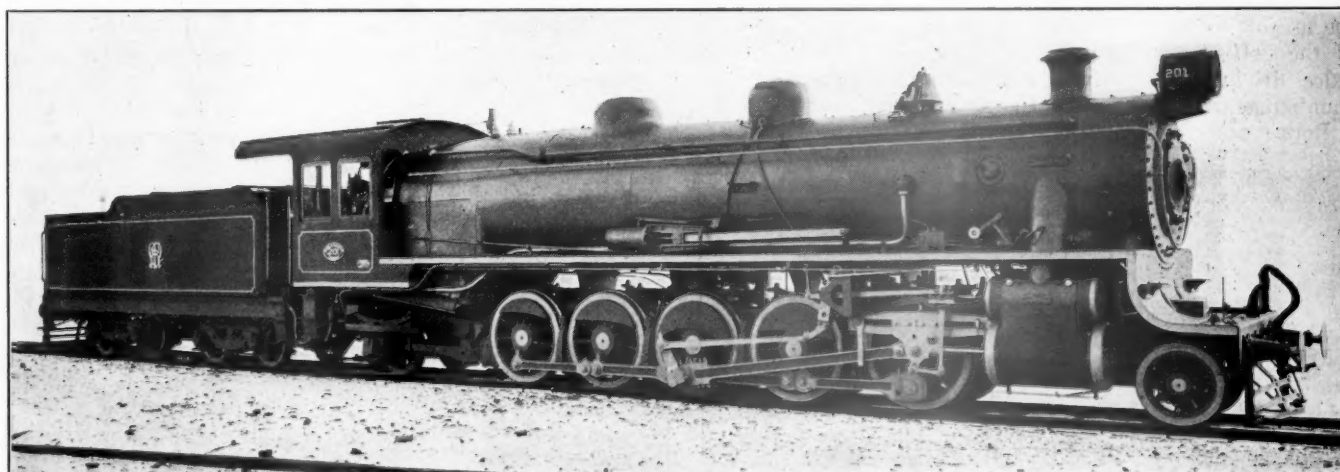
Mountain Type Passenger Locomotive

American Locomotives for the Manila Railroad

Mountain and Santa Fe Types Have an Unusual Number of Interchangeable Parts to Facilitate Maintenance

RAILROAD DEVELOPMENT in the Philippine Islands has been quite meagre. The largest island, Luzon, is served by the Manila Railroad with headquarters at Manila. This road is 665 miles long and has a north and a south line with branches. The rolling stock, including the new locomotives now being received, consists of 145 locomotives, 240 passenger cars and 1,675 freight cars. The only other railroad in the Philippines is the Philippine Railroad on the islands of Panay and Cebu, with 295 miles of line authorized

The Manila Railroad distributes a large part of the imports, a considerable proportion of which are from the United States. On the north line there is inter-island passenger traffic, while the freight tonnage consists largely of sugar and tobacco. On the south line the traffic handled includes coconut, copra, coconut oil, hemp and lumber. There is also the passenger traffic to and from the south and the southern islands, connection being made by boat at Hondagua. There are no large cities along the line of the road, but there



Santa Fe Type Freight Locomotive

and 133 open. This is an American enterprise and at present has 15 locomotives, 50 passenger cars and 198 freight cars in service.

The Philippines have a population of 10,350,000 and a total area of 115,026 square miles, of which 41,000 square miles comprise the island of Luzon. Practically all of the imports and exports, to the annual amount of \$137,461,766 for imports and \$142,190,563 for exports, pass through the port of Manila. The principal imports are wheat flour, cotton goods, chemicals, automobiles, fish, paper, silk, iron and steel, while the exports consist largely of copra, coconut oil, hemp, maguey, embroideries, sugar centrifugal, raw sugar, tobacco leaf and cigars.

are many small native towns. The large majority of the passengers are natives who travel third class, but excellent first-class coaches are provided also, although they are rarely filled.

The track gage of both Philippine roads is 42 in., which is the standard gage in Japan and is also frequently used in many other eastern countries.

Much of the equipment on the Manila Railroad is quite antiquated but the lack of necessary capital made it impossible to replace the present facilities by anything like the amount of new equipment needed. The situation, however, is being greatly improved by the addition of 10 new Mountain (4-8-2 type) locomotives for passenger service and 10

Santa Fe (2-10-2 type) locomotives for freight service, built at the Brooks works of the American Locomotive Company. In addition, the road received 10 locomotives last year from the H. K. Porter Company and is now receiving an additional lot of 10 more.

These are not the first locomotives on this road from the United States, as the American Locomotive Company delivered 10 to the road in 1913. The old locomotives have made 140,000 miles between shoppings, which is an excellent record and in excess of that ordinarily obtained by American roads, 80,000 miles being considered a good general average.

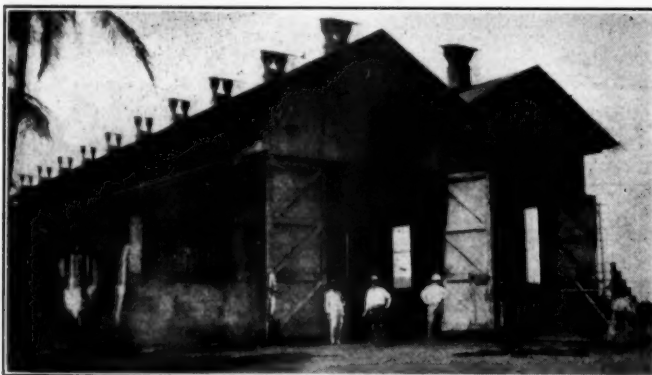
In designing the new locomotives the American Locomotive



Station at Hondagua

Company arranged to have as many as possible of the detail parts of the two types the same to facilitate maintenance and reduce the number of extra parts which would have to be carried by a road situated so far from the point of manufacture. That the designers succeeded to a high degree is evidenced by the fact that the interchangeable parts include the boiler complete with fittings; cylinders complete, except height; valve motion parts with exception of eccentric cranks; trailing truck; cab; tender; cocks; valves; fittings and brake cylinders. The following parts also are interchangeable except for the modifications required because of the use of lateral motion driving boxes on the forward axle of the 2-10-2 type locomotive: Rods, crank pins, driving axles, driving boxes, driving box saddles, shoes and wedges, equalizing arrangement details and spring hangers.

Both types of locomotives have 20 in. by 28 in. cylinders,



Engine House at Hondagua

11 in. piston valves with $5\frac{1}{2}$ in. travel and an extended wagon top boiler carrying 180 lb. steam pressure. The inside diameter of the first ring of the boiler is 63 in.; the firebox is $84\frac{3}{16}$ in. long by $60\frac{1}{4}$ in. wide with 130, 2-in. tubes and 22, $5\frac{3}{8}$ -in. flues, 18 ft. 6 in. long. The heating surface is 176 sq. ft. for the firebox, combustion chamber and arch tubes and 1,823 sq. ft. for the tubes and flues; the superheater surface is 493 sq. ft. and the grate area 35.2 sq. ft.

The 2-10-2 type locomotives, which are capable of exerting a tractive force of 35,700 lb., have 48 in. drivers and weigh 188,000 lb., 148,500 lb. of which are on the drivers, 15,500

lb. on the front truck and 24,000 lb. on the trailing truck. The engine wheel-base is 34 ft. 41 in., driving wheel-base 18 ft. 4 in. and rigid wheel-base 13 ft. 6 in.

The 4-8-2 type locomotives, which are capable of exerting a tractive force of 28,600 lb., have 60 in. drivers and weigh 183,000 lb., 119,000 lb. being on the drivers, 34,000 lb. on the front truck and 30,000 lb. on the trailing truck. The engine wheel-base is 34 ft. 7 in. and driving wheel-base, 15 ft. 9 in. The tenders have a capacity of six tons of coal and 5,000 gal. of water.

The road on which this equipment is to operate includes $1\frac{1}{2}$ per cent grades and curves of 150 meters (492 ft.) radius.

The locomotives are provided with screw type couplings having the hook, screw, clevis, links and screw crosshead made of chrome-vanadium steel. The bumper and sills on the front end of the locomotive and rear end of the tender



Construction Work on Southern Extension to Guinayangan

have been designed, however, to allow for a future application of M.C.B. couplers. The brake equipment was furnished by the Vacuum Brake Company of England and in addition to the ejector and apparatus for controlling the train brakes, the locomotives are equipped with steam driver brakes while independent hand brakes are used on the tender.

The equipment throughout is strictly modern and includes Locomotive Superheater Company's superheaters, pyrometers, Security brick arches, Worthington feedwater pumps and heaters, Alco 7 in. type E-3 steam power reverse gear, Pyle-National electric headlights and Barco flexible connections in the vacuum brake piping between the engine and tender.

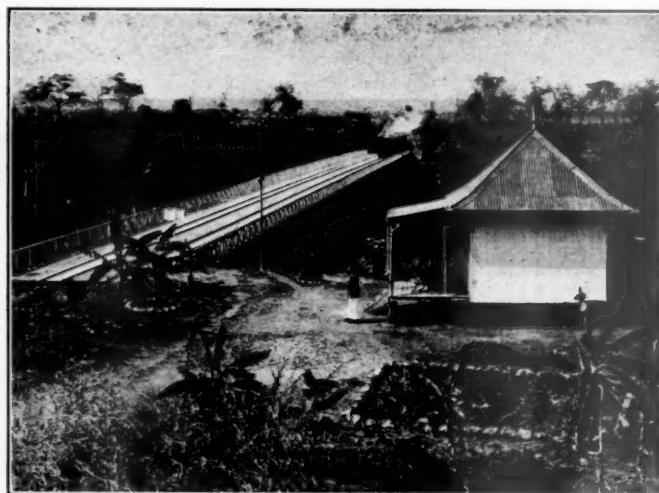


Photo by Keystone

Over the Zambesi River Near Victoria Falls, Africa

Chamber of Commerce Discusses Railroad Problem

Railroad Committee Proposal for Commissioner General of Transportation Is Vigorously Opposed

WASHINGTON, D. C.

THE RAILROAD question was the chief subject considered at a two-day session of the conference of the national council of the Chamber of Commerce of the United States held at Washington on February 8 and 9. The discussion centered around a report of the railroad committee proposing the creation of a commissioner general of transportation, to be appointed by the President, whose duty would be to present the public interest before government bodies responsible for the formulation of policies having to do with transportation. This proposal was vigorously opposed by Howard Elliott, chairman of the Northern Pacific; Alba B. Johnson, president of the Railway Business Association, and others.

Report of the Railroad Committee

The report was presented by George A. Post, president of the Hudson River Bridge & Terminal Association, chairman of the railroad committee. The report said in part:

Your committee is much impressed by the fact that at the hearings before the various governmental bodies that are constantly dealing with matters affecting interstate commerce no witness ever appears who is authorized and equipped to present the matters under consideration from the standpoint of the public as a whole. There are usually able representatives of the various special interests, but there is no official representative of the public—no one who is charged by the government with responsibility for making an independent study of the transportation needs of the American people, and then making at the discretion of the President of the United States the results of that study, available to the rate making and wage fixing powers to neutralize the influence of those whose attitude and contentions are liable to have their bases in their desire to promote their own interests without due regard for the interests of the public as a whole.

In its review of the transportation situation the committee says:

Nearly two years have elapsed since Congress passed the Transportation Act returning the railroads to private operation. At no time during that period have conditions been normal either in the United States or in the world at large. As a result of the great war there has been a world-wide depression in business and a great decrease in the volume of railroad traffic and in the net earnings of the roads. The gross revenues of the roads have considerably increased under the new rate schedule established in 1920, but the cost of operation has remained so high that the net operating income of the railways of the country as a whole has remained very inadequate. In 1921, for example, the net railway operating income was only 2.9 per cent of the tentative value of the property as determined by the Interstate Commerce Commission—less than one-half of the 6 per cent authorized in the act, and an amount quite insufficient to furnish an adequate basis for the re-establishment of railroad credit.

Many of the conditions which limit the earnings of the railroads are entirely beyond the direct control of Congress or of the Interstate Commerce Commission or the Railroad Labor Board or the railroads themselves. Nevertheless, each of these agencies is now engaged in making a comprehensive and nation-wide effort to bring together information and develop constructive proposals in the hope of restoring normal conditions in the transportation industry.

The Senate Committee on Interstate Commerce has just completed a series of hearings on "Modifications of the Transportation Act," at which proposals to repeal the statutory rule of rate-making and to repeal the authority of the Interstate Commerce Commission to regulate interstate rates when they discriminate against interstate commerce were carefully considered. The committee has not yet submitted its report, but the official record of the hearings contains a large amount of testimony which tends to show that these two provisions of the act are in the public interest and that they have been administered by the Interstate Commerce Commission in accordance with the intent of Congress when it included them in the act.

The Senate Committee on Interstate Commerce is also conduct-

ing a series of hearings on railroad revenues and expenses with a view to determine what are the facts in regard to the financial operations of the railroads since March 1, 1920, and what would be the best means of bringing about a condition that will warrant the Interstate Commerce Commission in reducing freight and passenger rates. The testimony of railroad executives and the testimony of railroad security owners at these hearings have been carefully reported to members of the Chamber of Commerce of the United States in special publications issued by the Department of Transportation and Communication, and the testimony of railroad employees, railroad shippers, and other witnesses at the hearings will be reported as soon as possible after it is completed.

Almost every interest affected by railroad transportation has already submitted voluminous testimony to the Senate committee during these hearings, and has brought to its attention a great variety of plans for improving the situation by amending or repealing certain provisions of the act. In December, 1921, a representative of the Chamber of Commerce of the United States appeared before the committee, but not for the purpose of criticizing the act. On the contrary, he declared in his testimony that the business men of the country regard the act as a strong piece of constructive legislation and on their behalf urged Congress not to amend any of the provisions of the act until they have been tested under normal peace conditions.

The Joint Commission of Agricultural Inquiry appointed by Congress in July, 1921, is also holding a series of hearings that have an important bearing on transportation. This commission is investigating the causes of the present condition of agriculture, giving special attention to the marketing and transportation facilities of the country with a view to recommending legislation which will in the opinion of this Congressional body tend to remedy existing conditions. As yet it has submitted only a preliminary report, but it has announced that in its final report it will include the results of a nation-wide study of transportation conditions as they affect agriculture.

The Railroad Labor Board is sitting in almost continuous session in its effort to fix wages and working conditions that will be just and reasonable, not only to railroad employees, but to the railroads themselves, to users of railroad transportation, and to the general public. The board has already made substantial reductions in the scale of wages paid to large classes of railroad employees, and it is now considering the possibility of further reductions. It has set aside many of the rules included in the national agreements governing working conditions that were in effect during the war, and has formulated new rules to take their place. The board is proceeding in an orderly way to discharge the responsibilities placed upon it by the Transportation Act, and it seems reasonable to expect that if given an opportunity to continue its work with full public support it will be able to bring about a reduction in railroad labor cost that can and will be translated into a reduction in freight rates.

Further Investigations

The Interstate Commerce Commission commenced on December 14, 1921, a general investigation to determine whether and to what extent, if any, further reductions in rates *** can lawfully be required by order of the commission *** upon any commodities or descriptions of traffic and also to determine what will constitute a fair return from and after March 1, 1922, under section 15a of the Interstate Commerce Act. The railroad executives have already completed their testimony at these hearings. They maintain that the revenues of the railroads in each important traffic section of the country are at the present time wholly inadequate, and that if these revenues are further reduced by a reduction in rates it would inevitably result in financial disaster for many of the railroads without bringing any corresponding advantage to the industries. They assert that a general reduction of rates at this time would prevent the railroads from making adequate preparation for the expected revival of business, and would tend to make it impossible for the industries to obtain necessary transportation service when normal traffic is restored.

Representatives of the shippers are now testifying before the commission. In almost every instance they urge large and immediate reductions in freight rates, expressing the belief that such reductions would result in an increase in traffic and presumably in an increase in the revenues of the roads. The railroad executives do not share this belief.

Your committee has given careful consideration to the proceed-

ings of these various investigations as far as they have gone. We do not presume to offer a solution of the difficult questions now confronting the official agencies that have been established to regulate interstate commerce. In due time these questions will be settled by these agencies according to their best lights. Your committee is much impressed, however, by the fact that at the hearings before the various governmental bodies that are constantly dealing with matters affecting interstate commerce no witness ever appears who is authorized and equipped to present the matters under consideration from the standpoint of the public as a whole. There are usually able representatives of the various special interests, but there is no official representative of the public—no one who is charged by the government with responsibility for making an independent study of the transportation needs of the American people and then making, at the discretion of the President of the United States, the results of that study available to the rate making and wage fixing powers to neutralize the influence of those whose attitude and contentions are liable to have their bases in their desire to promote their own interests without due regard for the interests of the public as a whole.

The specific recommendations of the committee were published in the *Railway Age* of January 28, page 273.

Railway Business Association Opposes Report

Mr. Johnson said the Railway Business Association unanimously adopted in annual meeting on February 1 a resolution opposing the creation of a commissioner general of transportation for the purposes set forth in the report of the railroad committee, and specified the following reason: An officer designated as the President's representative to discuss railway problems with committees of Congress and federal agencies, including the Interstate Commerce Commission, would be a wholly new feature in our government, for which the association sees no occasion and in which it fears the possibility of pressure tending to impair the independence of those charged with railway regulation or legislation.

The general executive committee, which on January 31 unanimously recommended such action, requested him to appear at this meeting, support that resolution and advance an alternative proposal for a channel through which organized business can impress its views respecting railways upon federal officers and agencies.

Mr. Johnson said in part:

Congress or its divisions from time to time receive communications from the President in his official capacity. Hitherto such advice has come either directly from the President or through executive officials exercising power over the subject and owing responsibility therefor directly or indirectly to the President. Members of Congress on the other hand, are sometimes informed of the President's views through channels other than these. When that course is pursued it is in his capacity not as President but as party leader or as a citizen. In that case, the emissary, whatever may happen to be his official status, if any, is acting for the moment unofficially and without government responsibility.

What is now proposed is that an individual shall express the President's views to committees of Congress on a subject in relation to which the emissary has no official power of responsibility. Yet he is not an employee of the President's party or of the President personally but an employee of the government. He has authority to require information from all departments. He has the explicit duty of reporting recommendations to the President.

The Interstate Commerce Commission has statutory power and duty. It is responsible for the results of its course. Its administration of the law is theoretically based upon its independent judgment. In adjudicating the rights of those who complain of discriminations it is in effect a court. Whether exercising business judgment as to wise rate level or judicial authority in the correction of discriminations, the commission has enjoyed until recently a large degree of immunity from executive suggestion. In the past when a President transmitted views upon rate cases his messenger took great pains to emphasize by secrecy the unofficial character of the message. Knowledge of it reached the public only by whispered rumor. During federal control the director general made the rates but this was under a war emergency measure which subjected the commission not to subordination but to suspension.

Relinquishment of the roads to their owners restored the previous legal status. Unfortunately the previous practice was not fully restored. Executive suggestion both Presidential and cabinet has been frequent and open. A week ago today it was made formal, the secretary of commerce making oral recommendations to the commission respecting its rate policy. It is this tendency

which is sought to be made official, formal and permanent through the creation of a commissioner general of transportation. As applied to the commission it is a departure in our process of government.

So long as we keep our legislative and executive separate, Congress has an independence for us to maintain. Executive pressure tends to break down that independence. Administrative boards like the Interstate Commerce Commission by the terms of their establishment are still further protected. Such boards are quasi-judicial and quasi-expert. They adjudicate right and wrong and they also exercise business discretion. Either function involves judgment. The commissioners concentrate upon their subject. They have a cumulative experience. They have a broad basis of comparison and familiarity with precedents. They carry a responsibility for the aggregate results of their work. Their judgments are those of an authority. Not even the Supreme Court reviews those judgments except as to the single aspect of jurisdiction. Either the statute bestows a given power or it does not. If it does, the board has the last word.

Orderly procedure is of the essence. Independence is vital. Clamor is the petulance of those seeking privileges. Pressure is scandalous. To Congress the President or his subordinates may suggest policies, but contrary to the common habit of thought the Interstate Commerce Commission is an arm not of Congress but of the government as a whole, created by joint action of Congress and the President, and its limits defined by the Supreme Court.

If the proposed commissioner did not exert influence he would be useless. If he did, he would be mischievous. The basic idea is meddlesomeness. If the executive department has jurisdiction it can carry out its views without appeal to any other branch of the government. If the executive department lacks a jurisdiction which it ought to have the remedy is to confer the jurisdiction with power, not to set up advisory functions. If a branch of the government other than the executive has jurisdiction and this is a mistake the jurisdiction should be placed elsewhere or the function abolished. If it is where it belongs the tribunal carrying the responsibility should be respected and kept free from executive encroachment.

Co-ordination is a ghastly nightmare. As we learned in the war, attempts at it brought us to the brink of disaster. The only workable course when two authorities conflict is to place one above the other with power not to advise but to decide. The most conspicuous field of conflict actual or apprehended is between the commission and the labor board. We doubt that public opinion is sufficiently crystallized to formulate a remedy but whatever the remedy the co-ordination should unify power and not amplify advice.

Outcome Government Ownership

If we fail in the present experiment with regulation, the outcome will be government ownership. I do not know of any competent observer who doubts it. If we cannot regulate railroads we cannot regulate banking or business or agriculture or labor. If the government cannot regulate, it must own and operate all these activities. When that time comes the map-makers may continue to label a certain North American area the United States, but it will not be the kind of United States you and I think worth living in or preserving. The background of this railway problem is our whole political and economic life. The railroads are the first trench. We must hold it.

Whether we hold that trench or not will depend upon our railway policy and its administration. Adequacy of income as a statutory aim of regulation is fighting for its existence against the forces of repeal. The chamber stands solidly against such repeal.

Adequacy of income in its practical application by the Interstate Commerce Commission is fighting for its life against the forces of special interest and irresponsible pressure. Upon this aspect the chamber has not spoken. There is need for it to speak.

Organized business should provide and maintain means of its own for presenting business opinion upon railroad questions to those charged with regulation or legislation. In that direction the chamber has done much. It could do much more. It would be a great piece of good fortune if the discussion of the railroad committee report should lead to the development of a more comprehensive plan. Such a result of this debate would be logical, since we all know that the object in the minds of the railroad committee was and is an improvement in the means for attaining and preserving the vigor of our transportation system.

Alexander W. Smith Favors Report

Alexander W. Smith, of Atlanta, Ga., spoke on behalf of the committee in advocating the report. The right solution of the railroad question, he said, involves ultimately the existence of the government of the United States. The greatest defect in our system of railway regulation has been that the

regulating body has had presented to it a mere contest between selfish interests and the general good has had no counsel in court to represent its interests. That process of continual contest before regulating bodies has been the greatest enemy the carriers have had to confront. He said the plan was not original with the committee and quoted statements by Alfred P. Thom advocating the creation of a commissioner of transportation, a bureau of transportation or some agency to present the public interest to the rate-making power. Mr. Smith said there is absolutely no co-ordination and co-operation between the innumerable agencies that are dealing with various phases of transportation. He had ascertained that there are 42 separate federal agencies that have some functions to perform with reference to transportation, besides the regulating bodies of 48 states. Yet, he said, the great problem that stands behind it all goes by default and decisions are rendered without its ever being heard. How can there be a readjustment of rates and costs, he asked, with one body determining 60 per cent of the costs and another fixing the rates? "We have a beautiful machine, but no driver at the wheel, and we are getting nowhere. The great problem facing the country is the problem of public control coincident with private initiative and enterprise. In self-preservation we will have to have government ownership unless that problem can be solved. The idea of the committee is to put upon the President the responsibility of selecting some one who can act for him in studying how to bring to a common purpose the work of the various agencies."

In reply to the suggestion that the plan would inject politics into the situation, Mr. Smith said there has been a good deal of politics in the transportation question for several years. He argued that the recommendation does not provide for a political officer and said that for that reason it was not proposed that the commissioner be subject to confirmation by the Senate.

It must be assumed that the President will have ordinary intelligence enough to select a man who will be a credit to himself, because what he does would be the direct act of the President. He referred to the fact that when President Harding came to appoint a new director general of railroads the proclamation was filled out and signed before he ever saw the man. The appointment was made because of his previous familiarity with the problems connected with the liquidation of the Railroad Administration and without any question of political consideration.

Redfield Says Department of Commerce

Now Has Authority

W. C. Redfield, former Secretary of Commerce, said that he violated no confidence in stating that the committee had consulted Secretary Hoover on the subject and that he thought the functions proposed might well be reposed in the Department of Commerce. However, Mr. Redfield said, both the committee and the secretary seem to have overlooked the fact that the organic act creating that department makes it its duty to foster, promote and develop various things including "the transportation facilities of the United States." He recalled the fact that while he was secretary the department had intervened in the rate case of the Solvay Process Company against the Delaware, Lackawanna & Western and the director general on the ground that the increase in the rate against which the company was complaining was a matter that interested the entire public. Mr. Redfield said the department also has authority to make from time to time investigations and reports concerning commerce and transportation and its powers in this respect are very broad and comprehensive, being stated in language very similar to that of the committee's recommendations.

Elliott Opposes Reopening of Congressional Debate

Howard Elliott, chairman of the Northern Pacific and chairman of the Chamber's committee on transportation and

communication, earnestly opposed the adoption of the report at this time without full and careful consideration in connection with the work of other organizations which are studying the same question. Without discussing in detail the merits of the proposal itself, he opposed reopening the discussion in Congress on the transportation act because of the danger, if the door is once opened, of demolishing the entire act before there has been an opportunity to fully try it out. The act is not perfect, he said, but it is the result of five or six years of nationwide debate and now represents a guidepost. To tell Congress now that it should be changed would be to reopen the entire question. "Once open Pandora's box," he said, "and you do not know what you will get out of it." The Association of Railway Executives is now at work studying what changes in the transportation act may be worth considering in the future, and organizations of bankers and farmers are studying the same question and there is consultation among them.

In conclusion Mr. Elliott said: "The railroads are common carriers of people and property, but they are not common carriers of all the economic troubles of this country. Let us have a holiday for two years in the discussion of the railway problem and let us go ahead and tend to business."

Emil P. Albrecht, president of the Philadelphia Bourse, opposed the plan on the ground that it would merely increase the number of regulating bodies instead of helping in the solution of the problem. His organization for four years has voted in favor of discontinuing some of the regulatory bodies and "letting business take more care of itself." The proposed commissioner, he said, would not have any authority except to meddle with other legally constituted authorities.

W. H. Chandler, president of the National Industrial Traffic League, also opposed the report, saying he agreed with Mr. Elliott.

Following the conference the board of directors is to decide, after having ascertained the reaction of the council, which was plainly unfavorable, whether the recommendations of the committee shall be submitted to a referendum vote of the chamber.

At the evening session on Wednesday, Herbert Hoover, Secretary of Commerce, discussed the subject of "Consolidated Transportation," and Senator A. B. Cummins, chairman of the Senate committee on interstate commerce, spoke on "The Transportation Question from Different Points of View."

At the session on Thursday, T. C. Powell, vice-president of the Erie, was to speak on the transportation question from the point of view of the railroads, and W. S. Dickey, president of the W. S. Dickey Clay Products Company, was to discuss it from the point of view of the shipper.



A Signal Box on the Midland Railway, England

Hearings Before Committee on Interstate Commerce

McAdoo Makes Supplementary Statement—Manufacturers Urge Consolidation of Labor Board and I. C. C.

WASHINGTON, D. C.

W. G. McADOO, former director general of railroads, completed his statement before the Senate committee on interstate commerce on February 2. He made an addition to the statement which was abstracted partly in last week's issue and partly elsewhere in this week's issue, but he was questioned very little by members of the committee. At the conclusion of the statement Senator Cummins said that Mr. McAdoo had been devoting much of his statement to the more extreme criticisms that had been made of federal control, but that criticism of inefficiency of the Railroad Administration was not the prominent note taken by the railway executives in their testimony before the committee. Their testimony was directed to showing that the large increase in expenditures in 1920 could not have been avoided by the railroads because of conditions created by the Railroad Administration and they were attempting to justify their own expenses.

Senator Cummins also referred to Mr. McAdoo's statement of the cost of railroad service under federal control in which he had used the figure of \$714,000,000 as representing the deficit of the Class I roads. He pointed out that this did not measure the entire cost of federal control, as indicated by the larger figures since used by Director General Davis. Mr. McAdoo replied that the \$714,000,000 was, of course, merely the deficit from the operation of the Class I roads and that Mr. Hines' report had shown a deficit of some \$900,000,000 when the losses from water lines, the Pullman Company and the express company were taken into consideration. He understood Director General Davis had added some \$300,000,000 in his estimate of the cost of liquidation and that this included payments to short lines, a large item on account of the Minnesota fires, the adjustment of materials and supplies, etc., as well as undermaintenance, etc. Senator Cummins said he still thought that when the accounts were finally settled the government would still be behind at least \$1,300,000,000.

Increased Costs Not Exceptional

Mr. McAdoo in the concluding part of his statement also gave some comparisons of the increased cost of production in numerous large industries, to show that increased cost of operation of the railroads under federal control was not exceptional. He said that in his opinion the two outstanding reasons for the increased cost in 1920, aside from the additional wage increases, were the loss of economies resulting from unified operation and the fact that the railroads greatly increased their maintenance expenditures during the six months' guaranty period. He said the figures showed an increase of \$402,000,000 in maintenance expenditures during that period as compared with 1919. In this connection he read from a letter written by W. G. Besler, president of the Central Railroad of New Jersey, to his superintendent of motive power urging him to hurry up the repair of locomotives that had been sent to outside shops in order that the bills might surely be in by September 1, when the guaranty period would expire. He said this letter was brought out at a hearing before the Interstate Commerce Commission in its investigation of repairs in outside shops. Mr. McAdoo also said that the program of restoration of the railroads ceased with the guaranty period and since that time the maintenance expenses have been greatly reduced.

In his conclusion Mr. McAdoo said that the taking over of the railroads had stabilized labor conditions, given adequate service to the public, satisfied the needs of the military

arm of the government, protected the stock and bondholders and had saved the railroads instead of ruining them as asserted. He said that one of the most serious defects about the railroad situation at the present time is that the railroad transportation machine is in large part obsolete.

Senator Cummins has indicated that an opportunity will be given the railroads to introduce rebuttal testimony in reply to that of Mr. Hines, Mr. McAdoo and the labor representatives.

Manufacturers Urge Consolidation

of Labor Board and I. C. C.

The consolidation of the functions of the Railroad Labor Board with those of the Interstate Commerce Commission, so that a single tribunal composed exclusively of representatives of the public and regulating railroad expense as well as income through a single body, was advocated on February 3 before the committee, on behalf of 50,000 manufacturers throughout the United States, by a committee of the National Industrial Council. The committee, headed by C. S. Walker, director of the Iowa Manufacturers' Association, said in part:

Uninterrupted and efficient transportation at reasonable cost is as essential to the vitality of our industrial and commercial life as the unimpeded circulation of the blood to the health of the human body. The technical problem must be met by railway management, but there are certain principles in which every citizen should be interested because they affect the integrity of his social life. These the industrial associations of the United States have endeavored to assemble and state in simple terms that we may have a common starting point from which to approach this great question.

These conclusions are not hastily expressed but were carefully formulated after study by a conference committee and were submitted to each state organization, subjected to analysis and discussion, and are approved and presented on behalf of industrial associations authorized to speak for substantially 50,000 American manufacturers.

They are not submitted as representing merely a manufacturer's viewpoint but that of citizens whose active business life has led them to realize the necessity for securing effective recognition of certain essentials in American transportation. By that form of communication we live and move and have our being. The quicker our people recognize the necessity for preserving its integrity of operation, the protection which must be given our carriers and the recognition of social obligation which must be exacted from management and men in that service, the more quickly we will stabilize the conditions under which this great social instrumentality operates and relieve ourselves of the overshadowing dread of its financial breakdown or the arbitrary interruption of its service.

To produce this result the committee urged that the following affirmative principles be recognized:

- (1) The deliberate interruption of railroad service being socially destructive, disputes between the carriers and their employees should be ultimately determinable by a public tribunal, without stoppage of service.
- (2) The members of such tribunal should possess the highest personal qualifications and represent the public exclusively.
- (3) That such tribunal should be affiliated with, or function as a part of the rate-making authority.
- (4) That each carrier should be regarded as the primary unit of joint interest and co-operation in the establishment and maintenance of employment relations between the employees and the management of such carrier.
- (5) That arbitrary discrimination between organized employees and unorganized employees or between those who desire to bargain collectively and those who desire to bargain individually is intolerable in the regulation of the railroads.
- (6) That while the carriers and their employees should be afforded the widest opportunity to fix the terms of their employment relations, no form is desirable or permissible that does not assure to management the opportunity to fulfill its primary public

obligation to give uninterrupted and efficient service at reasonable rates.

(7) That the right of intervention by representatives of the public, for good cause shown, before federal administrative tribunals, including the Railroad Labor Board, ought to be affirmatively recognized by appropriate amendment to existing legislation.

(8) That National transportation ought to be regulated by Congress exclusively, and any recession of authority in such field, to state tribunals, is retrogressive and injurious to industrial development, as well as to orderly expansion of transportation facilities.

(9) That all National or State legislation imposing artificial economic burdens upon the cost of transportation, of which the Adamson Act and "full crew" laws are typical National and local examples, ought to be repealed.

Objects to Classification of Officers

Charles G. Poirier, vice-president of the Grand Order of Supervisors, an organization of some 5,000 supervisory officials, testified before the Committee on February 8 and urged the elimination of the classification of "subordinate officers" in the transportation act on the ground that the effect of this classification has been to give the shop crafts and the American Federation of Labor an opportunity to assert jurisdiction over the supervisory officials, such as foremen, destroying the status which many of them had claimed as officials, and that this is the cause of inefficiency in railroad operation because it tends to deprive the foremen of any control over the employees. Senators Cummins, Poindexter and Fernald expressed great interest in this testimony, saying that if this has been the effect it is exactly opposite to that intended by the classification of subordinate officers, which was put into the act at the instance of organizations of train dispatchers and yardmasters on the ground that it would tend to differentiate an intermediate class of men who were between the recognized official class and the employees.

Mr. Poirier said that the supervisory officers lost control of their men to a considerable extent during federal control, because it was impossible for them to retain the respect of the organized employees when the latter, if dismissed for cause, were able through their organizations to get themselves reinstated with pay for the time lost. He estimated the efficiency of the employees under these conditions at 70 per cent, and said that after the signing of the national agreements it dropped to 60 or 65 per cent. "Labor felt supreme," he said, "and their power and influence were felt on all sides. The American Federation of Labor gave notice that all employees and all foremen, unless they became members of the crafts, would lose their jobs. Then the Interstate Commerce Commission, acting under the law, placed the supervisory fore-

men on a plane with the labor organizations under the guise of "subordinate officials," which classification had been placed in the law at the instance of the labor organizations and certain organizations of disloyal supervisory officials whose motto was that they couldn't get any thing for their members unless they were so classified. A large part of the increase in operating expenses into which this committee is inquiring results directly from this separation of the supervisory officers from the official family to which they rightfully belong.

Purpose of Organization

"Our organization was formed in 1918 for self-protection by the conservative and progressive class of supervisory officials who objected to being separated from the official family and forced into the ranks of the crafts of the men we supervise. We objected strenuously to the Spencer amendment which placed the classification of subordinate officials in the act but the yardmasters, train dispatchers, storekeepers and some others formed their own organizations, and if the committee will allow me to express my own opinion or perhaps my imagination, I may say that the purpose is to hand those organizations over to the federation later just as the shop crafts were first organized separately and then taken over.

"Unless we can correct this situation we must go into the crafts, too. The recognition of subordinate officials as a separate class has given the federation an opportunity to dominate the supervisory officials whom it has placed on the same plane with the employees. It is legislating for them, it calls them 'scabs' in case of a strike, which it could not do if they were considered as officers, and we can do nothing to help ourselves. We are losing members daily."

When Senator Cummins said that the separate classification had been adopted for the purpose of making nominations to and giving representation before the Labor Board, Mr. Poirier said his organization does not want to go before the Labor Board. Its members consider themselves as officers, although certain organizations, such as the train dispatchers, prefer to use labor union tactics and go before the board. He insisted that the term subordinate officials is a misnomer, that all officers are subordinate to some one, from the vice-president down to the section boss.

"As it stands today the federation can say that we are no different from the crafts, and we can't hold our jobs much longer unless we affiliate with the crafts. We have tried to assert our status as officers but the pressure is getting too hot. This committee must help us out if the railroads are to be saved," Mr. Poirier said.

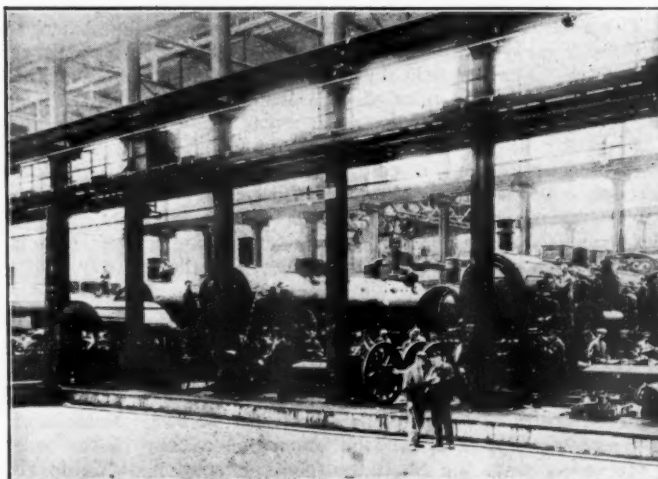


Photo by Underwood & Underwood

Krupps, Essen, Germany, at Work

General News Department

Employees in the offices of the Chicago & North Western at Chicago, have been notified that they will have to work Saturday afternoons. It is reported that vacations will also be curtailed.

The Maintenance of Way Club of Chicago will hold its next meeting at the Auditorium Hotel, Chicago, at 6 p. m., on February 15, at which time E. D. Swift, engineer maintenance of way of the Belt Railway, Chicago, will present a paper on the maintenance of railroad crossings.

The Repeal of the Full-crew Law, of New York, which has been in force since 1913, is proposed in bills introduced in the Legislature last week by Senator Wiswall and Assemblyman Mastick. These bills provide that the Public Service Commission shall be authorized to determine the number of men to be required in a train crew.

J. G. Sullivan, consulting engineer, Winnipeg, Man., formerly chief engineer of the Canadian Pacific Railway, Lines West, was elected president of the Engineering Institute of Canada at its annual meeting in Montreal, Que., on January 24 and 25. Mr. Sullivan was president of the American Railway Engineering Association during 1917-18.

A New Thawing Shed has just been put in service at the Pennsylvania Railroad coal terminal, at South Amboy, N. J., where coal for New York City and the Atlantic Seaboard is delivered to boats. This shed accommodates 20 cars at one time and cost about \$100,000. It is 448 feet long and contains two tracks. The cars being placed inside the shed, the doors are locked, and air is forced by powerful blowers over steam radiators and heated to between 200 and 250 degrees. It is forced through long concrete ducts which have outlets underneath the cars, located at intervals of about six feet. The thawing takes from one to twelve hours, the average time being about three hours.

John N. Hasson, of Tyrone, Pa., locomotive engineman of the Pennsylvania Railroad, who was retired on February 1, after an active service of 41 years on the Tyrone Division, 32 years of which he was a passenger runner, says that he has worked 41 Christmas days and 40 New Years, having missed New Years of this year owing to illness. Of all the other holidays in this time, he worked all but three. He was never disciplined for an infraction of the rules of the company, and has been in only one accident of any account. That was when he was a passenger engineman on the Moshannon Branch. While running at regular speed the engine suddenly turned over and rammed her stack in the ground. Mr. Hasson suffered injuries about the hand, but was off duty only two days.

Additional Directors of A. R. A.

Additional directors of the American Railway Association, to enlarge the board, have been elected as follows: for the term expiring November, 1924, Julius Kruttschnitt, Southern Pacific; for the term expiring November, 1923, E. E. Loomis, Lehigh Valley; for the term expiring November, 1922, Howard Elliott, Northern Pacific.

Erie Shops Leased

The car shops of the Erie Railroad at Buffalo, N. Y., have been leased to the Seminole Construction Company, and the new management began operations on Monday, February 6.

The shops of this road at Jersey City, N. J., have been leased to the Wagner Construction Company, the new arrangement taking effect on February 12. This contract includes also the shops at North Paterson, N. J.

Reports on Excess Earnings Due April 1

The Interstate Commerce Commission has extended the date on or before which railroad returns showing any excess earnings above 6 per cent on the value for the period ending December 31, 1920, shall be filed, from February 1 to April 1. Representations were made to the commission that the time fixed in the order of January 16 for the filing of returns was not sufficient.

Tentative Valuations

The Interstate Commerce Commission has issued tentative valuations in which it reports the final values as follows: Franklin & Pittsylvania, 1916, property used, \$404,308; property owned, \$328,308; Fort Worth Union Passenger Station, 1916, property owned, \$210,230; Greenwich & Johnsonville, 1916, property owned, \$901,912; Gainesville & Northwestern 1916, property owned, \$517,248.

Railway Revenues for December

A preliminary compilation of railway revenues and expenses for December for 163 roads gives a net operating income of \$39,555,000 as compared with \$3,930,000 for December, 1920. For these roads the revenues decreased 23 per cent but the expenses show a decrease of 31.2 per cent. The December returns have been difficult to estimate. A smaller number of roads showed a greater net operating income than is shown for 163 companies but many of the reports received later showed deficits.

Employees Fined for Theft

Eleven employees of the New York Central, arrested last September on charges of theft of goods from freight cars, were last week fined in the Supreme Court at White Plains, N. Y., in amounts from \$100 to \$300 each, with the alternative of serving jail sentences if the fines were not paid. Most of the men have families and they were allowed to plead guilty to the charge of receiving stolen goods. Some of them said it was necessary to join the company of thieves in order to hold their jobs; and it was stated that one of them had resigned his place in order to escape the "system." Two of the culprits were passenger conductors and one was a yardmaster.

Proceedings of the American Welding Society

The first monthly issue of the proceedings of the American Welding Society, dated January, 1922, has recently been published. The proceedings are 6 in. by 9 in. in size and the first number contains 44 pages. Copies of each issue will be mailed to each paid-up member.

A regular program has been laid out for the proceedings and each issue will contain editorials, news of the various local sections, activities of the American Bureau of Welding, a list of new members, an employment service bulletin, important technical papers presented to the society, a question and answer column, technical items of interest to the society and the industry, and a bibliography of current welding literature.

Requiring Omnibuses to Stop at Crossings

J. C. Caviston, 30 Vesey street, New York City, secretary of the Operating Division of the American Railway Association, has sent to all members of the association a copy of the order recently issued by the State Railroad Commission of California, requiring that stages and omnibuses be stopped before passing over railroad crossings; and with this a message from the committee on grade crossing protection, C. L. Bardo, chairman, suggest-

ing that railroads bring this matter to the attention of state commissions to see if action in this direction cannot be obtained in all of the states. A similar order has been issued by the Public Service Commission of Nevada; and it applies the rule not only to automobile stages (passenger-carrying vehicles) but also to trucks engaged in the transportation of explosives or inflammable liquids.

Pennsylvania-Labor Board Case Delayed

The controversy between the Pennsylvania and the Railroad Labor Board has been again postponed; hearings will be had before Judge K. M. Landis, of the United States District Court at Chicago on February 17. The developments in this controversy, including the temporary injunction obtained from Judge Landis by the Railroad to restrain the Board from issuing an order which that carrier believed to be unfair and unjust, have been described in previous issues of the *Railway Age*. Later, attorneys for the Labor Board filed a plea to dissolve this temporary injunction. Judge R. M. Barton, chairman of the Board, informed Judge Landis, when the last postponement was made, that the Board was anxious to have the case settled.

Automatic Train Stops in New York

The number of automatic train stops in use in and around New York City, mainly in subways, aggregates about 3,700, divided as follows:

Brooklyn Rapid Transit Company (including New York Municipal Railways) 1,077, divided as follows: General Railway Signal Company, electric motor apparatus, 950; Federal Signal Company, electric motor 19 and electro-pneumatic 68; Union Switch & Signal Company, electro-pneumatic 40.

Hudson & Manhattan, electro pneumatic, 244.

Interborough Rapid Transit Company, electro-pneumatic, 2,355.

To these must be added a small number, about 20, Hill automatic stops, in use on the Pennsylvania at its tunnels under the East and North rivers and at the drawbridge between New York and Manhattan Transfer.

Santa Fe Announces Budget

The Atchison, Topeka & Santa Fe has appropriated \$43,150,000 for equipment, improvements and betterments for 1922. Of this amount \$11,750,000 will be for the completion of work in hand; \$22,000,000 for new work including 75 miles of new second track from Yampai, Ariz., to Griffith; \$8,000,000 for new equipment; and \$1,400,000 for a new line from Satanta, Kan., west 55 miles. Following are some of the larger items in the budget:

Additional main line.....	\$6,662,298
Satanta branch line.....	1,400,000
Bridges, trestles and culverts.....	1,512,893
Rails and other track material.....	1,101,868
Stations and office buildings.....	1,056,639
Shop buildings	1,041,350
Additional yard tracks and sidings.....	946,148
Shop machines and tools.....	724,281
Assessments for public improvements.....	533,633
Widening cuts, fills, etc.....	459,701
Signals and interlockers.....	446,289

Eastern Managers Meet

Managers of 55 railroads in the Eastern conference territory, in a meeting at New York on February 8 decided that the conference committee should begin next week negotiations with the Big Four brotherhoods on adjustment of rules and wages, as proposed at Chicago some weeks ago. The conductors and trainmen were notified that they would be met on February 16, and the enginemen and firemen were asked to appear on February 20. The conference committee of officers consists of P. E. Crowley, N. Y. C., chairman; Elisha Lee, Penna.; C. W. Galloway, B. & O.; Charles H. Ewing, P. & R.; C. L. Bardo, N. Y., N. H. & H.; M. S. Connors, H. V., and John G. Walber, chairman of the bureau of information. The roads joining the negotiations will be those on which are employed from 80 to 90 per cent of the brother-

hood memberships. The roads that are not expected to participate are the Bangor & Aroostook; the Pere Marquette; the Cincinnati, Indianapolis & Western; the Toledo, St. Louis & Western, and the Bessemer & Lake Erie.

All Exhibit Space Reserved

One index of the general feeling in the railway appliances' field is to be noted in the present status of plans for the fourteenth annual exhibit of the National Railway Appliances' Association at Chicago, March 13-16. The regular meeting for the allotment of space, held last November, closed with 22 spaces still unreserved and there was at that time some feeling of uncertainty on the part of the members of the association as to the success of the coming exhibit. However, all question of doubt has been eliminated by the fact that all available space has since been taken up and C. W. Kelly, secretary of the association, is being embarrassed by requests from a great many companies for space which he is unable to provide. The association is in a position to take on additional non-exhibiting members who are always given the preference in the allotment of space in case any vacancies occur.

Safety on the New Haven

The New York, New Haven & Hartford reports that in January for the third time the 38,000 employees of the system passed through an entire month without a fatal injury. The two previous months when this record of safety was achieved were May, 1920 and August, 1921.

The New Haven's Bureau of Safety was established in April, 1914, with a central committee and fourteen subordinate committees and there are now altogether 34, with a total membership of 557. Representatives of the safety department keep in constant touch with employees by personal interviews, and by means of 250 bulletin boards. A friendly rivalry is maintained between divisions and shops. Through the courtesy of school authorities in the cities and towns, children have been taught the danger of playing on railroad property, stealing rides, etc., and manufacturers have co-operated with the Safety Bureau in warning their employees of the danger of trespassing on the tracks.

A cause of continued grave concern is the careless operation of automobiles at grade crossings. During 1921, 27 automobilists were killed and 90 injured at crossings on the New Haven road and 177 automobiles were driven through gates and into the sides of passing trains, resulting in 10 deaths and 25 injuries.

Since 1913 the number of persons killed on the road (all classes) has decreased 57 per cent, while the number of employees killed has decreased 62 per cent.

Illinois Central Discusses State Rate Control

Proposed legislation in Congress to take away from the Interstate Commerce Commission authority over state rates is characterized as unprogressive, impracticable and illogical in the latest advertisement of the Illinois Central in its publicity campaign. The article states that the federal constitution grew out of a generally accepted feeling on the part of the people that commerce among the states should be free. "The federal government," the article continues, "was founded upon the theory that commerce and trade were national subjects and should not be subjected to local conditions. To that end the constitution confers exclusive power on Congress to regulate commerce among the states. By a long life of supreme court decisions it is now thoroughly settled that a state must not be permitted to make any rates or regulations which will interfere with Interstate Commerce. The power of the Commission to condemn rates which discriminate against interstate commerce, has been repeatedly upheld. In the case of the Illinois Central System, passing through and touching 14 different states, it is obvious at a glance that it ought not to have 15 systems of rates, one applicable to interstate commerce, and 14 others applicable to the commerce of the different states which it serves.

"Railroads in the United States have for a long time struggled against a divided authority of intrastate and interstate traffic and they have been subjected to a number of conflicting regula-

tions and have been greatly embarrassed and inconvenienced by the necessity of obeying the mandates of various state commissions on the subject of rates many of which conflict with one another. In some instances, state commissions have frankly announced the purpose to give to the people of their own state an advantage over the people of another state by making a discriminatory rate adjustment. While present legislation does not go so far as to make it necessary for all states to contribute their fair share toward the expense of maintaining the transportation machine, yet it is recognized by all thoughtful students of the problem that there should be but one body with power to regulate rates and that the national body. There would still be left to the state commissions many important duties in connection with their police power. Their jurisdiction would be unimpaired as to service matters such as operation of intrastate trains, character of station facilities, crossings, etc. It is a great mistake to suppose that the control of rates by the Interstate Commerce Commission would make it more troublesome and expensive for patrons of the railroads to give relief."

Illinois Manufacturers' Association

Considers Capper Bill and Railway Wages

The Illinois Manufacturers' Association passed a resolution on January 6, protesting against that part of the Capper Bill restoring the jurisdiction of the state commissions and repealing the rate-making section of the Transportation Act of 1920, and a second resolution calling upon the Labor Board to render a clear cut decision that will bring about a readjustment in railroad wages. The first resolution states that the passage of the bill, by seriously impairing the financial stability of the roads, would place them in a more acute condition than they have been at any time in the past, and that such complicated authority over the roads would react seriously upon the manufacturers and all other interests. The second resolution calls attention to the fact that manufacturers are particularly concerned with the application by the railroads for the readjustment of wages of their employees, including shop and common labor, both of which, under the schedules of the United States Railroad Labor Board, are far in excess of wages paid in industrial lines and seriously affect manufacturing enterprise; that excessive war-time wages as well as uneconomic working rules have so raised the cost of railroad operation that freight and passenger rates cannot be reduced to the level needed to stimulate manufacturing, commerce and agriculture; that therefore, the Labor Board should bring about a readjustment in railway wages, to a basis of that paid labor in the vicinity for similar work, and also abrogate uneconomic working conditions.

Successful Santa Fe Land Development

The Atchison, Topeka & Santa Fe, believing that there were great possibilities in the agricultural development of the southwestern counties in Kansas, purchased some 340,000 acres of land in this territory in 1909 from a holding company, and placed it on the market at a little above cost. A nation-wide advertising campaign was inaugurated to sell the land to young men who would be willing to buy it and farm it according to a scientific system which was established by the company's agricultural department—a system which had been demonstrated successfully by the Kansas Agricultural College. The land sold for \$1,200 to \$3,500 per quarter section and the settlers were permitted to pay down one-eighth of the purchase price and the remainder in annual installments for not to exceed nine years, until the entire indebtedness had been removed, at which time the deed was transferred to the owner. Some completed their payments within two or three years, while the majority made their final payments before the expiration of the time specified in the contract. It was necessary for the company to grant extensions of time in only a very few instances and there has not been a single foreclosure suit.

In connection with this venture the railroad built a new line extending from Dodge City, Kan., to Elkhart, a distance of 125 miles, to provide the needed transportation facilities for the newly opened territory. The project is considered to have been a complete success, not only through the financial return on the land investment, but also from the new and steadily growing business of a rapidly developing country.

Traffic News

The Interstate Commerce Commission has changed the effective date of its order prescribing the terms of an export bill of lading from February 15 to March 15.

Senator Robinson of Arkansas has introduced in the Senate a bill to require the discontinuance of the surcharge on fares of passengers riding in sleeping and parlor cars.

Rice and rice products are to be included in the 10 per cent. reduction in transcontinental freight rates on farm products, granted the first of the year by the carriers.

The Public Service Commission of Alabama began this week public hearings in connection with its proposal that the railroads should make a general readjustment of the freight rates in that state. The carriers are called upon to give detailed information concerning each one of about forty prominent commodities.

The Southeastern Express Company, operating over the lines of the Southern Railway Company, announces that its service has been extended over the Tennessee Central, between Harriman, Tenn., and Hopkinsville, Ky. This extension took effect on February 1, the day on which the Tennessee Central was delivered by the Receiver to the new owners.

Freight carried through the Panama Canal in 1921 amounted to approximately 10,708,338 long tons. The decrease in the number of ships as compared with 1920 was 1.1 per cent, and in cargo 4.7 per cent. The net tonnage of vessels in the year 1921, however, exceeded that of 1920, as there was 11,435,811 tons, Panama Canal measurement, for 1921, and 10,378,365 for the previous year. Tolls aggregated \$10,325,718 in 1921, as compared with \$10,295,362 in 1920.

The new officers of the Traffic Club of Minneapolis, Minn., are as follows: president, Charles L. Kennedy, assistant general freight agent, Chicago, Milwaukee & St. Paul; vice-presidents, W. H. Perry, general traffic manager, Pillsbury Flour Mills Company; George A. Upton, general agent, Baltimore & Ohio; secretary, W. W. Gibson; treasurer, L. H. Caswell; directors, W. H. Perry, Paul Scheunemann, S. A. Eddy and George V. Thomson.

Officers of the Traffic Club of Kansas City, Mo., for 1922, are: president, John D. Yates, assistant general freight agent, Missouri Pacific; vice-presidents, Charles D. Dooley, traffic manager, Peet Brothers Manufacturing Company; R. F. Atwood, division freight agent, Chicago, Rock Island & Pacific; secretary-treasurer, Peter J. Rose, general agent, Cincinnati, Indianapolis & Western; directors, George H. Hamilton, general freight agent, Missouri Pacific; Charles W. Miller, traffic manager, Swift & Co.; Oscar H. Poehler, traffic manager, Dierks Lumber & Coal Company; W. D. Wells, traffic manager, W. S. Dickey Clay Manufacturing Company; L. E. Ayer, general agent, Canadian National System; Fred B. Blair, traffic manager, Hoyland Flour Mills Company; M. A. Gray, traffic manager, H. E. Lee Mercantile Company; E. G. Woodward, general agent, passenger department, Chicago, Milwaukee & St. Paul.

Commercial Stocks of Anthracite

and Bituminous Coal

At the beginning of the new year American consumers had on hand approximately 47,000,000 tons of soft coal, according to a report of a survey made by the Bureau of the Census and the Geological Survey. This was a million tons less than the revised figure of stocks on November 1. While much above the low mark of June, 1920, it was still 16,000,000 tons, or 25 per cent, below the maximum of 63,000,000 tons reached on the day of the Armistice.

In terms of days' supply the present stock appears larger than it would in times of normal business. At the rate of consumption prevailing during December, the reserve was sufficient to last 41 days, if evenly divided. Were business active, the present stocks would last not more than 32 days, if evenly divided. But the stocks are never evenly divided. In every community there

are consumers who store virtually no coal. Therefore, as experience has shown, symptoms of a shortage develop in a very few days, if the delivery of coal is interrupted. Such interruptions have occurred in the past through mine strikes, traffic congestion on the railroads, or severe winter weather. Today the trend of production is upward and coal is being added to storage. In the last week of January 9,626,000 net tons were produced, and not more than 9,000,000 tons consumed and exported.

Retail coal dealers' stocks of anthracite on January 1 were smaller than on November 1 last, but larger than at any time in 1919 or 1920. It is the opinion of the trade that the quantity in the possession of householders is below normal. Incomplete reports on the quantity held in storage by producers indicate little change since November 1. Nearly a million tons of by-product coke is on hand at coke plants, much of which can be used for domestic fuel.

According to reports received from the American Railway Association, the carriers had about 35 days' supply on hand at the beginning of the year, allowing for the present reduced rate of consumption. The roads already heard from show a total in storage of over 13,000,000 tons, and it is possible that complete returns will indicate a total stock above even the maximum of 13,644,000 tons on January 1, 1919. A large amount of this railroad-fuel coal is held in cars.

Coal Production

A further increase marked the production of soft coal during the week ended January 28, according to the weekly bulletin of the Geological Survey. The total production is estimated at 9,626,000 net tons or 9½ per cent over the week preceding. For the first time since mid-November the output was large enough to meet current consumption and add materially to the reserve of coal in storage.

Shipping Board Seeks Cancellation of Contracts With Japanese Steamship Lines

The preferential traffic contracts between the Chicago, Milwaukee & St. Paul and the Great Northern railways and Japanese steamship lines, covering export and import traffic to and from the Orient, which the Shipping Board is insisting that the railroads abrogate in order to give Shipping Board vessels a chance for a share in the business, were the subject of an informal conference at the Shipping Board offices on February 2, attended by Chairman Lasker and Commissioners Thompson and Lissner of the Shipping Board, Chairman McChord and Commissioners Campbell and Potter of the Interstate Commerce Commission, Ralph Budd, president of the Great Northern, H. E. Byram, president, and R. M. Calkins, vice-president of the Chicago, Milwaukee & St. Paul, and representatives of the Seattle Chamber of Commerce.

The Shipping Board reaffirmed its position that all preferential contracts between railroads and foreign steamship companies must be abrogated and stated that it could not enter into a contract with the rail lines to take the place of the foreign contracts. The railroad officers expressed their desire to aid the American merchant marine, but reaffirmed their previous position that the abrogation of the contracts would only deprive them of revenue with no assurance that the business would go to the American boats, because of the control of a large part of the traffic by the Japanese soliciting agencies and the probability that the contracts would be transferred to Canadian lines. It is understood that Mr. Budd proposed as a compromise that the contract be abrogated and that the road agree to turn over to the Shipping Board vessels one-half of the unrouted traffic, giving the other half to Japanese lines in return for the business which they can give to the road. Commissioner Potter is said to have taken the position that the railroad officers would not be warranted in voluntarily giving up the contracts and thereby sacrificing their revenues. Members of the board claim that they have legal authority to compel the cancellation of the contracts but have preferred to try to persuade the roads to cancel them. The railroad representatives will meet again with members of the board on March 1 with a view to giving their final answer at that time.

Commission and Court News

Interstate Commerce Commission

The commission has suspended from February 5 until June 5, the operation of certain schedules published in tariffs issued by agents E. B. Boyd, W. P. Emerson, W. J. Kelly and F. A. Leland, which propose increases and reductions in rates on green coffee from New Orleans, Galveston, and other Gulf ports to various destinations in Oklahoma, Kansas, Texas, Arkansas, Missouri and other states.

The commission has suspended from February 6 until June 5, the operation of schedules which propose proportional class rates from Seattle and Tacoma, Wash. to Portland, Ore., applicable on shipments destined to points on the Oregon Electric Railway, south of Portland, to and including Eugene, and points on the Southern Pacific south of Portland, to and including Roseburg, and the same proportional rates from Portland to Seattle, which rates are published to expire May 31, 1922.

United States Supreme Court

Interstate Commerce Commission's

North Dakota Order Held Enforceable

The rate case of the State of North Dakota, briefly reported in a previous issue was in the shape of a bill in equity brought by the State in the United States Supreme Court against certain named railroad companies to prevent their obeying an order of the Interstate Commerce Commission until the Supreme Court can review the decision upon which that order was made. The order increased intrastate freight rates in North Dakota upon a finding that the present rates were an unjust discrimination against interstate commerce within the meaning of paragraph 4 of section 13 of the Act to regulate commerce as amended by the Transportation Act of February 28, 1920, c. 91, Title IV, § 416, 41 Stat. 456, 484, North Dakota Rates, Fares and Charges, 61 I. C. C. 504. Increased Rates, 1920, 58 I. C. C. 220.

The Supreme Court dismissed the bill, holding that the State should be remitted to the remedy offered by the statutes—a suit in the District Court in which the United States is made a party. The court said, by Mr. Justice Holmes: "Complete justice requires that the railroads should not be subjected to the risk of two irreconcilable commands—that of the Interstate Commerce Commission enforced by a decree on the one side and that of this court on the other. The decision in this case, although an authority, would not be *res judicata*, and the Commission would not be concluded from rearguing the whole matter. As to public policy, Congress has indicated the policy of the United States. For although it is argued that the requirement that the United States should be made a party is a mere matter of procedure for the purpose of giving the Department of Justice control, we cannot limit the significance of the Judicial Code, section 211, by such a speculation. The language of the section shows that public interests were before the mind of Congress, and that in its opinion an order made in the public interest should not be hindered from going into effect until the representative of the public had been heard. It appears to us that this view is so reasonable that it should be accepted by this Court even if not bound.

"There is no doubt that a State can sue in the District Court when the United States is a party and has consented to be sued there and has not expressed its consent to be sued elsewhere. *United States v. Louisiana*, 123 U. S. 32; *Ames v. Kansas*, 111 U. S. 449. For the reasons that we have indicated it is equitable that a decree should not be entered except in such form as to bind the Interstate Commerce Commission and the United States and therefore this bill must be dismissed. The right of the State is sufficiently protected by the right to appeal from the decision of the District Court."—*North Dakota v. Chicago & North Western*. Decided January 23, 1922.

Labor Board Decisions

Seniority Rights Not Allowed Express

Messenger Living Outside Terminal Point

An express messenger of the American Railway Express Company, owning his home at Fulton, Ky., and residing there, was refused the right to exercise his seniority rights by the Board on runs from Cairo, Ill., to New Orleans, La., after he refused to move to Cairo. The contention of the carrier that it was necessary to call upon train employees for extra service and that they should reside at the home terminal where they would be available when desired on important runs, was upheld.—*Decision No. 661.*

Differential Rates of Pay for

Express Messengers Upheld

Express messengers on trains of the Chesapeake & Ohio, operating between Cincinnati, Ohio, and Chicago, Ill., requested the same rates of pay as express messengers on trains on the Cleveland, Cincinnati, Chicago & St. Louis, operating between the same points. The carrier, admitting the disparity, contended that such differentials had always existed and were warranted by differences in working conditions and the greater importance of the higher paid runs. The Board upheld this contention. *Decision No. 638.* Like rulings were made in *Decisions 653, 654, 655, 656 and 659*, in which employees on other roads sought equalization of wages on the same basis.

Board's Authority to Decide Claims for Overtime

for Period from March 1, 1920, to December 1, 1920

Although the claim of clerks in the Chicago, Indianapolis & Louisville, in the local freight office at Chicago, for payment for overtime work in excess of 8 hours a day in connection with the establishment of a 45-hour week, was denied by the Board, the contention of the carriers, that the Board had no jurisdiction in the case, was denied. The carrier contended that inasmuch as the claim was for wages alleged to be due, the Board had no authority to make any decision either denying or sustaining it; that it was a matter for the courts to determine under the working agreement in effect during the period for which the claim was made; and that the board had no authority to decide the claim for the period of federal control, January 1, 1920, to March 1, 1920. The Board over-ruled this contention.—*Decision No. 607.*

Boilermaker Not Responsible for Violation of

Federal Boiler Inspection Rules

A boilermaker in the employ of the Fort Smith & Western, was dismissed on February 27, 1921, for alleged violation of rule 25 of the federal locomotive inspection laws. The employees contended that his dismissal should have been on the grounds of incompetency and not on the charge that he violated this rule. In its decision the Board stated that the evidence shows conclusively that the conditions on which the dismissal was based were entirely within the control of the carrier; that the employee in question was not the responsible party, and his reinstatement with seniority rights unimpaired and pay for time lost was ordered.

A dissenting opinion was filed by Horace Baker, in which he said: "In my judgment the responsibility for proper boiler inspection is a very important one that devolves upon the carrier, which must rely on its supervising forces to see that proper inspection is made. To absolve from blame a man who failed by reason of incompetency, neglect, or otherwise, to properly inspect boilers and report those which need attention, places a responsibility upon the Labor Board not contemplated by the Transportation Act, 1920. Action taken in this case is not only an injustice to the carrier, but may result in a serious menace to the public and employees of the carrier, to say nothing of damage to property."—*Decision No. 598.*

Foreign Railway News

Swedish Electric Locomotives for France

The Allmänna Svenska Elektriska Aktiebolaget—the well known "A. S. E. A."—has recently secured a contract from the French State Railways for construction of 30 electric locomotives at the company's works at Vasteras, according to information from Consul D. I. Murphy, at Stockholm.

India to Order Railway Equipment Once a Year

LONDON

The Government of India, it is reported, beginning with the year 1923, will invite bids annually for all the railway locomotives and stocks required during the ensuing twelve months. The average annual requirements will be 160 locomotives and 160 additional boilers during 1923 and 1924, and thereafter 460 locomotives and 460 additional boilers.

Avalanche Buries Japanese Train

The burial of a railroad train in an avalanche, reported in a press dispatch from Tokio, Japan, on February 4, is said to have resulted in the killing of 110 persons and the injury of numbers of others. The accident occurred at Itoigawa. The statement is not clear whether or not the train was a passenger train, the victims being, it is said, mostly farmers, workmen and men engaged in clearing snow from the track.

Britain Lands South African Electrification Contract

Cable advices from Commercial Attaché Walter S. Tower, of London, announce that the contract for electrification of 170 miles of single track of the South African Railway between Pietermaritzburg and Glencoe has been given to the Metropolitan Vickers Electric Company of Manchester. The cost of this work will be about 750,000 pounds sterling, being based on a revision of the British bids as of January 1. No new bids were asked for, since the old ones were reduced in amount on account of wage cuts in the electrical industry and other reductions in cost items.

New Short Line Railroad in Mexico

Contracts have been awarded to a firm in El Paso, Tex., for the construction of a new railroad, 47 miles in length, called the Ferrocarril de Chihuahua y Oriente, to run from Sierra Los Lamentos and Erupcion mine to the Mexican Central, at Candelaria, 65 miles south of Juarez, according to Vice-Consul Oscar Cole Harper, Ciudad Juarez. The contract calls for the completion of the roadbed and bridges within 150 days, it being understood that the railroad company will lay the steel. It is planned to have the road in operation by August, 1922, or sooner.

The line will be of standard gauge and will carry passengers and freight. The main traffic, however, will consist of lead and silver ores from the Erupcion mines, which in magnitude of ore deposits are likened to the famous ore deposits of the Santa Eulalia district near Chihuahua, Mexico.

Condition of Polish Railways Improves

LONDON.

In March, 1919, the total mileage of the Polish railways in operation amounted to approximately 3,225 miles, whereas in March, 1921, there were approximately 9,750 miles in operation. In July, 1919, they had 2,127 locomotives, 4,859 passenger cars and 41,953 freight cars. In July, 1921, these had increased to 3,696 locomotives, 8,489 passenger cars and 87,901 freight cars and Germany has recently delivered to Poland under the reparation treaty 300 locomotives.

In 1919, 49 per cent of the locomotives and 32 per cent of the passenger cars were under repair, while at the present time only 37 per cent of the locomotives and 20 per cent of the passenger cars are under repair. Eleven per cent of the freight cars were under repair in 1915, while today there are only 8 per cent.

German Railway Strike Ended

The strike on the railways of Germany has ended, according to press dispatches from Berlin. The workers return on the sole condition that there will be no wholesale discharges from the service. For a week transportation was virtually paralyzed and there seemed to be a grave danger of a general strike. The government fought the strike with every means available and the outcome would seem on its face to be a government victory.

Wage Reductions in Scotland

The National Wages Board, sitting in London, has announced certain modifications in wage scales and working conditions on the Scottish railways as follows:

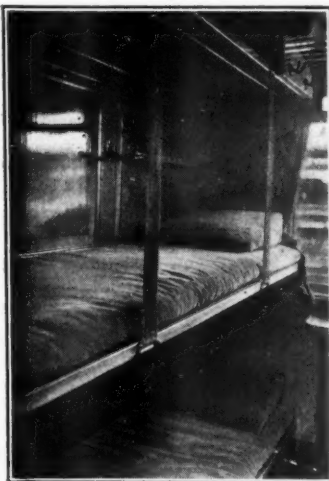
1. Wages shall be decreased 2 shillings per week for every drop of 5 points in the cost of living index number (instead of one shilling as at present), provided that the present "B" or "stop" rate (beyond which wages may drop) will be maintained.
2. Adult rates shall be paid to employees when they attain 20 years of age, instead of 18 as at present.
3. Where economy will accrue, men may be worked regularly 9 hours a day, but with regular overtime pay.
4. Employees may be required to work their 8 hours in a spread of 10 or 12 hours under certain conditions.

While the new rulings take some favorable conditions away from the employees, they do not in any way meet the demands of the Scottish railway companies, which were:

1. An out-and-out reduction in wage rates to bring them back to the scale prevailing before the June, 1920, award—an average reduction of 5s. weekly.
2. The discontinuance of extra payment for night duty.
3. The payment of adult wages at the age of 21.
4. Increasing the hours of service over 8 hours in some cases and allowing split tricks over a 12-hour period.

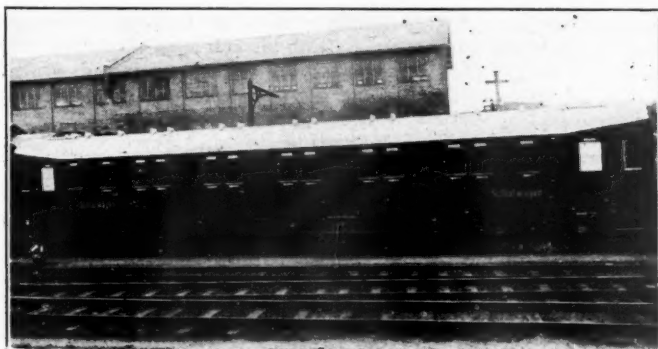
Cheap Sleeping Accommodations on German Railways

The German State Railway has recently experimented with a new type of third-class compartment on the sleeping cars on the Berlin-Jena line, according to the Engineer (London).



The Three Berths

The new compartments do not contain beds, but have three sloping shelves placed one above the other, the lowest of which during the day is converted into an ordinary seat, the middle one into a back, while the upper one is used as a rack for parcels. The occupant of the upper shelf climbs into position by means of a folding ladder. The administration intends to place these sleeping compartments on three lines, between Berlin and Cologne, Berlin and Munich, and Berlin and Königsberg. In view of the low price of the sleeping ticket, 40 marks per person, a great demand for the accommodation thus provided is expected.



The New Third-Class Sleeping Car

Equipment and Supplies

Freight Cars

THE NORTHERN PACIFIC is inquiring for 500 refrigerator cars, of 70 ton capacity.

THE CHICAGO, MILWAUKEE & ST. PAUL is inquiring for 1,000 or more 40-ton box cars.

THE WESTMORELAND COAL COMPANY, Philadelphia, Pa., is inquiring for 100 cars of 55-ton capacity.

THE CANTON HANKOW is asking for prices through export houses in New York City on 10 open freight cars.

THE WARNER SUGAR COMPANY, 99 Wall street, New York City, has ordered 10 logging cars from the Magor Car Company.

THE CHICAGO, BURLINGTON & QUINCY is inquiring for 500 automobile cars, which inquiry has been substituted for 500 40-ton box cars inquired for previously.

THE ARGENTINE STATE RAILWAYS are asking for bids until March 1, at Buenos Aires, for 750 narrow gage cars to include flat cars, gondolas, box, tank and passenger cars.

THE DELAWARE, LACKAWANNA & WESTERN has placed orders for the repair of 700, 30-ton box cars with the Magor Car Company and for 500 with the American Car & Foundry Company.

THE SEABOARD AIR LINE, reported in the *Railway Age* of January 7 as having placed orders with the Chickasaw Shipbuilding Company, Birmingham, Ala., for new freight cars, has ordered 1,750 new steel underframe freight cars from this company and will have repairs made to 3,000 freight cars.

THE CHICAGO, BURLINGTON & QUINCY has ordered 6,800 freight cars of the 7,300 on inquiry, distributed as follows: 1,000, 40-ton, steel frame box cars from the Mt. Vernon Car Manufacturing Company, 500 of this type from the Pullman Company and 500 from the General American Car Company; 500, 30-ton refrigerator cars with 40-ton trucks from the American Car & Foundry Company, 400 from the General American Car Company and 400 from the Pullman Company; 500 stock cars from the American Car & Foundry Company; 1,000, 50-ton composite gondolas from the Western Steel Car & Foundry Company, 500 from the Pullman Company, and 500 from the American Car & Foundry Company; and 1,000, 16 door, steel gondola cars from the Bettendorf Company.

Passenger Cars

THE PENNSYLVANIA RAILROAD reported in the *Railway Age* of January 14 as inquiring for 20 all steel dining cars will build these cars at its Altoona, Pa., shops.

THE CENTRAL OF NEW JERSEY is asking for prices on about 50 cars for passenger service, to include 25, 63-ft. steel passenger cars, 10, 63-ft. combination passenger and baggage cars and 10 baggage cars.

THE UNION PACIFIC, reported in the *Railway Age* of December 24, as inquiring for 25 baggage cars, 20 coaches and 18 steel observation cars, has ordered 25 steel baggage cars from the American Car & Foundry Company, and 20 coaches from the Pullman Company.

Machinery and Tools

THE DELAWARE, LACKAWANNA & WESTERN recently ordered a Ryerson-Conradson engine lathe, for its Dover, N. J., shops.

THE SHIBaura ENGINEERING WORKS, Tokyo, Japan, is inquiring through Mitsui & Co., New York City, for 48 machine tools.

Iron and Steel

THE JAPANESE GOVERNMENT RAILWAYS will receive bids up to February 13, at Tokyo, Japan, for 10,000 tons of 60-lb. rail, together with 500 tons of splice bars.

Track Specialties

THE LOUISVILLE & NASHVILLE has ordered 2,700 tons of splice bars from the Inland Steel Company; 7,500 kegs of spikes from the Jones & Laughlin Steel Company; and 3,500 kegs of bolts from the Illinois Steel Company.

Miscellaneous

THE GREAT NORTHERN is asking for prices on 450,000 tie plates.

THE GREAT NORTHERN is inquiring for two motor buses, each with seating capacity for not less than 40 persons, with 10 ft. space for baggage and express.

Signaling

NEW YORK CITY export houses are asking for prices on 200 complete sets of color light signals; also on another lot of 52 complete sets, for export to Japan.

THE WESTERN PACIFIC has ordered from the General Railway Signal Company a mechanical interlocking plant, 24 levers, to be installed by the signal company, at San Jose, Cal.

THE UNION PACIFIC has ordered materials from the Union Switch & Signal Company for the installation of a d. c. 110-volt Type "F" electric interlocking at Council Bluffs, Iowa; 8 switches, 8 signals and 4 traffic control levers. Installation by railroad forces.

THE WABASH has awarded a contract to the Union Switch & Signal Company for the complete installation of an electric interlocking at Rouge river drawbridge near Detroit, Mich. The interlocking includes 22 functions which will be controlled by 10 working levers in a 15 lever frame.

THE MISSOURI PACIFIC has ordered from the General Railway Signal Company the material for a mechanical interlocking, Saxby & Farmer, 28 levers, to be installed at Hiawatha, Kan.; and has given a similar order for Dudley, Mo., 24 levers, the apparatus in both cases to be installed by the railroad company's forces.

THE PHILADELPHIA & READING has ordered from the Union Switch & Signal Company, a complete style "P 5" electro-mechanical interlocking for a drawbridge at Darby Creek, Pa. The layout consists of a double track with one turnout, necessitating 5 smash board signals. The signal company is to construct the entire installation.



\$4,800,000 of Silk En Route from Japan to New York on the C. M. & St. P.

Supply Trade News

M. C. Davidson, works manager of the Ryan Car Company, has been elected a director and second vice-president of the company.

The Rathbun Jones Engineering Company, Toledo, Ohio, has appointed the Ingersoll-Rand Company, New York city, general sales agent for Rathbun gas engines.

The Hauck Manufacturing Company, Brooklyn, N. Y., manufacturer of portable oil burners, furnaces, torches, etc., has moved its Philadelphia, Pa., office to 1726 Sansom street. Herbert Vogelsang, who has been connected with the company for six years, is in charge of this office.

John Harvey Bryan, representative of the Apollo Steel Company, Apollo, Pa., manufacturer of steel sheets, has been appointed also representative of the Gulf States Steel Company, Birmingham, Ala., manufacturer of wire products and bars. Mr. Bryan's headquarters is at 50 Church street, New York city.

Frank M. Morley joined the service department field staff of the Franklin Railway Supply Company, New York City, on January 1. He was born at Smithboro, N. Y., on January 31, 1884, and was educated in the public schools of Auburn, N. Y. and Sayre, Pa. After completing an apprenticeship in the Sayre, Pa. shop of the Lehigh Valley Railroad, he joined the Ingersoll-Rand Company. Mr. Morley has also been connected with the Seaboard Air Line, the United States Navy Yard at Norfolk, Virginia, the Washington Navy Yard and was at one time a field engineer for the Standard Stoker Company.

The Pittsburgh Testing Laboratory, Pittsburgh, Pa., inspecting engineers and chemists, announces the retirement of its president, George H. Clapp, and his reappointment as a member of the board of directors of the company, and the election of Col. James Milliken to the presidency of the company. This corporation devotes special attention to the inspection of railroad locomotives, cars, steel rails, track appliances, bridges, etc. Expert inspection is now given in a large way in the building of all kinds of good roads. Its chemical department specializes in the analysis of metals, coals, cement, etc., and gives particular attention to the analysis of imported food products. Col. Milliken was born on February 19, 1865, at Newton, Bucks County, Pa. He was educated in the Philadelphia schools and also took a course at the University of Pennsylvania and holds an honorary degree of mechanical engineer. In September, 1885, he entered the service of the Pennsylvania Railroad. In January, 1903, he was appointed superintendent of motive power of the Philadelphia, Baltimore & Washington. In May, 1917, he was relieved of his duties as superintendent of motive power on the Pennsylvania to assist Col. Deakyne, commanding officer of the 19th Engineers in recruiting a regiment of locomotive repairmen for service in France. The following July he was appointed mechanical aid to S. M. Felton, director general military railways at Washington, D. C., and was given charge of the design, purchase, production, and shipment of locomotives, cars, shop and engine house equipment. In June, 1918, he was placed in charge of the engineering and purchasing work of the railway equipment and track materials. On October 18, 1918, he was commissioned a colonel in the Corps of Engineers, with the same duties as previously and in addition assisted in selecting the officers in mechanical regiments that were sent overseas. Colonel Milliken was honorably discharged from the service in April, 1919. On July 14, 1919, he was made an officer in the Loyal Legion d'Honneur. Since 1919 he served as president of the Industrial Car Manufacturers' Institute.

Obituary

Harry Frankel, president of the Frankel Connector Co., Inc., died at his home in New York City, on February 3, at the age of 55.

Don H. Amsbary, Pittsburgh district manager of the Dearborn Chemical Company, Chicago, died on January 25, at his home in Pittsburgh, Pa. Mr. Amsbary was born on March 3, 1869, at Pekin, Illinois,



D. H. Amsbary

Railway Club of Pittsburgh, Pennsylvania.

and was educated at the Cathedral Grammar School of his native town. He began work with the American Water Works and Guaranty Company of New Castle, Pennsylvania, at the age of 21 and was in that company's service until 1907. He then entered the employ of the Dearborn Chemical Company, in the Pittsburgh district, and for the past seven years was district manager of that company. Mr. Amsbary was identified with many business and social organizations including the

Trade Publications

GUNITE.—The Cement Gun Construction Company, Chicago, has issued a 32-page bulletin containing photographs showing methods and results secured in the application of gunite or cement mortar applied with a cement gun. The work illustrated covers a wide variety of structures including the encasing of structural steel bridges, the coating of masonry arches and tunnel linings and the construction of small concrete units such as telephone booths.

MOTOR CARS.—In a 20-page booklet recently issued by the Fairmont Gas Engine and Railway Motor Car Company, Fairmont, Minn., an interesting account is given of the Fairmont motor designed for application to section gang cars. The illustrations in this pamphlet show views of these motor cars in use by track and bridge and building gangs for hauling both men and materials and also show various mechanical parts of the equipment. The text consists primarily of the exposition of the mechanical and operating advantages of this form of equipment.

CONCRETE PLACING EQUIPMENT.—The Lakewood Engineering Company, Cleveland, Ohio, has issued a 64-page descriptive booklet on the various types of concrete chuting plants which it carries among other equipment for use in concrete construction work. Detailed specifications are given for all types and sizes of the Lakewood chute sections, steel towers, sliding frames, elevator buckets, tower and floor hoppers, concrete carts, etc. The booklet is well illustrated with photographs of construction projects showing the various ways in which the chuting plants are used. The dimension sketches of the plants are reproduced in blueprint form, showing complete details. The booklet also includes tables of practical help in laying out such plants on various kinds of work.

UNLESS THE AMERICAN PUBLIC led by American financiers, becomes interested in investing money in foreign securities, American exporters are bound to be handicapped. Many European countries habitually buy large amounts of such securities each year and the money thus raised is naturally spent in the country of its origin. We have made great strides in this direction as the numerous foreign loans floated here testify, but there is still ample room for constructive educational work on the part of bankers along these lines.—E. D. Kilburn, *Westinghouse Electric International Company.*

Railway Construction

ATCHISON, TOPEKA & SANTA FE.—This company contemplates the construction of 75 miles of second track between Yampai, Ariz., and Griffith, including the reduction of grades.

ATCHISON, TOPEKA & SANTA FE.—This company closed bids on February 9, for the construction of three stations, several section houses, and other necessary buildings on its new branch line which will extend westward from Satanta, Kan.

ATCHISON, TOPEKA & SANTA FE.—This company closed bids on February 9, for the construction of a branch line to extend from Satanta, Kan., to a point 55 miles westward, the cost of which is estimated at \$1,400,000.

ATCHISON, TOPEKA & SANTA FE.—This company is constructing an additional jetty in Red Deer Creek, in order to protect its roundhouse and other terminal property at Canadian, Tex., from floods.

CANADIAN PACIFIC.—This company will construct a large pier on the Burrard Inlet waterfront at Burrard, B. C., the dredging and filling for which was done in 1921. It is expected that it will be about 18 months before the pier is completed.

CANADIAN PACIFIC.—This company will construct an additional ice storage building at Okanagan Landing, B. C.

CHICAGO, BURLINGTON & QUINCY.—This company which was noted in the *Railway Age* of January 21 as receiving bids for the construction of a 45-room hotel and alterations to its eating house at Cody, Wyoming, estimated to cost \$25,000, has awarded the contract for this work to F. Jacoby, Billings, Montana.

CLEVELAND, CINCINNATI, CHICAGO & ST. LOUIS.—This company has prepared plans for the construction of a Y. M. C. A. building at Bellefontaine, Ohio, estimated to cost \$100,000.

DARCO CORPORATION.—This corporation contemplates the construction of a line of railroad to extend from Marshall Texas, to the Darco lignite territory, which is a distance of about ten miles.

DENVER & RIO GRANDE WESTERN.—This company contemplates changing its lines in New Mexico, from narrow gage to standard gage with the possibility of also extending them. No definite decision has yet been reached as to when this work will be undertaken.

DODGE CITY & CIMARRON.—This company has applied to the Interstate Commerce Commission for authority to construct an extension to its lines from Satanta, Kan., through Haskell, Grant and Stanton counties, a distance of approximately 55 miles.

ERIE.—This company has awarded a contract to Foley Brothers, St. Paul, Minn., for the construction of a freight pier 100 ft. by 842 ft. at Weehawken, N. J. The pier dock, retaining walls and platform will be of concrete construction with a superstructure of wood sheathed with zinc.

GREAT NORTHERN.—This company, which was noted in the *Railway Age* of December 24 (page 1286), as contemplating the construction of a second main track between Lamona, Wash., and Blustem, a distance of 22 miles, has awarded the contract for this work to Grant Smith & Co., Seattle, Wash. This same company contemplates the construction of a second main track between Welliston, N. D., and Spring Brook, a distance of about eight miles.

GREAT NORTHERN.—This company, in conjunction with the Northern Pacific, contemplates the construction of a viaduct over the tracks at its Bay Front yard, Superior, Wis., although this work has not as yet been authorized. The same company is making extensive repairs to its Interstate Bridge in that city, including the rebuilding of Superior approach, which is used for street railway and highway traffic.

INDIANAPOLIS & CINCINNATI TRACTION.—This company will construct an extension to its lines from a point in Indiana to Cincinnati, Ohio. The rapid transit commission of Cincinnati will undertake the construction of a 17-mile approach to the city from the point of intersection with the Indianapolis & Cincinnati Traction. A 2½-mile tunnel through which the interurban will gain entrance into the city has been completed.

JACKSON & EASTERN.—This company has awarded a contract to J. N. McLebb, Jackson, Miss., for the construction of a railroad from Currans Crossing, Miss., to Pelahatchie Creek, a distance of 11 miles. This is part of a 61-mile extension program which was recently authorized by the Interstate Commerce Commission, and which will be completed during the present year. It is expected that contracts will be awarded in the near future for the construction of the remainder of the extension.

MINNEAPOLIS & ST. LOUIS.—This company, in conjunction with the Great Northern, has prepared plans for the construction of a steel bridge approximately 520 ft. in length over the tracks of both railroads at Fifth street, North Minneapolis. This work is estimated to cost about \$200,000.

MISSOURI PACIFIC.—This company closed bids on February 10, for the construction of a service building at Little Rock, Ark., estimated to cost about \$12,000.

PACIFIC FRUIT EXPRESS.—This company contemplates the construction of an ice plant at a location which has not as yet been announced.

OKLAHOMA RAILWAY.—This company contemplates the construction of an extension to its lines, from Guthrie, Okla., to Stillwater, a distance of about 30 miles, the cost of which is estimated at \$1,200,000.

OREGON SHORT LINE.—This company has been petitioned by the farmers in southwestern Idaho, to extend its Homedale branch line from Homedale, Idaho, to Butte, a distance of about 7 miles.

SALT LAKE & UTAH.—This company, in conjunction with the Bamberger Electric, contemplates the construction of a two-story reinforced concrete and steel terminal building, 170 ft. by 184 ft., including stores, offices and train sheds, at Salt Lake City, Utah, the entire cost of which is estimated at \$250,000.

SOUTHERN PACIFIC.—This company, in conjunction with the city of Houston, Tex., is receiving bids for the construction of a subway to replace the old North Main street tunnel in that city. The subway will be under 19 tracks and will provide two passageways, 21 ft. in width, for highway traffic, and one 8 ft. in width, for pedestrians. The work is estimated to cost approximately \$200,000 of which the city will bear one-half.

ST. LOUIS-SAN FRANCISCO.—This company contemplates the extension of its lines from Vinita, Okla., northwest into the coal fields of the Central Coal & Coke Company, of Kansas City, Mo., a distance of about 20 miles. Surveys for this extension are now being made.

ST. LOUIS-SAN FRANCISCO.—This company will receive bids until February 20, for the construction of a 4-story brick hospital at Springfield, Mo., estimated to cost \$700,000.

UNION PACIFIC.—This company closed bids on February 10 for the construction of a new station and rooming house at Yermo, Cal.

WENATCHEE SOUTHERN.—This company has applied to the Interstate Commerce Commission for a certificate authorizing the construction of a line from Wenatchee to Beverly Junction, Wash., 53 miles, operation over the tracks of the Chicago, Milwaukee & St. Paul, from Beverly Junction to Hanford, Wash., 46.6 miles, the construction of a new line from Hanford to a connection with the Oregon-Washington Railroad & Navigation Company, 29 miles, and use of the latter's tracks to Kennewick, 5 miles.

WICHITA & NORTH WESTERN.—The Interstate Commerce Commission has denied an application of this company for a certificate authorizing the construction of an extension of 14 miles from a point near Vaughan to La Crosse, Kans. The commission says it is unable to find that present or future convenience and necessity require the construction of the extension.

Railway Financial News

ATCHISON, TOPEKA & SANTA FE.—*Budget for 1922.*—This company will spend \$43,150,000 for improvements and betterments in 1922 according to President W. B. Storey who is quoted as follows:

Probably \$60,000,000 a year for the next three years ought to be spent. Of the 1922 expenditures \$11,750,000 will be for the completion of work in hand, \$22,000,000 for new work including 75 miles of new second track in Arizona from Yampai to Griffiths; \$8,000,000 for new equipment, and \$1,400,000 for a new branch line from Satanta, Kan., 55 miles west. Additional maintenance will require \$6,662,236; bridges, trestles and culverts, \$1,318,893; rails and other track material, \$1,101,868; stations and office buildings, \$1,056,639; shop buildings, \$1,041,350; additional yard tracks and sidings, \$946,148; shop machines and tools, \$724,281; assessments for public improvements, \$533,633; widening cuts, fills, etc., \$459,701; signals and interlockers, \$446,288.

CHICAGO & INDIANA COAL RAILWAY.—*The Sale of Brazil Branch.*—The line known as the Brazil Branch, which was formerly owned by the Chicago & Indiana Coal Railway, was sold at foreclosure on January 16, 1922, for \$15,000 to attorneys for the Metropolitan Trust Company of New York. When the Chicago & Eastern Illinois was reorganized recently the new company did not acquire this former Chicago & Indiana Coal Railway Company property.

DENVER & RIO GRANDE.—*Hammond Committee Defends Reorganization Plan.*—The committee of Denver & Rio Grande refunding 5 per cent. bondholders, of which John H. Hammond is chairman, has issued a reply to the committee headed by James H. Perkins, which latter committee, in inviting deposits of the bonds with it, expressed the opinion that the plan of reorganization agreed upon by the Hammond committee with the Western Pacific was unsatisfactory and said that the Perkins committee purposed to obtain better terms by arrangement with one or more connecting lines. Mr. Hammond says his committee has recommended a definite and constructive plan which includes the provision that the Western Pacific furnish \$10,000,000 for the improvement of the Denver & Rio Grande property and the turning over to the reorganized company of all unencumbered assets of the old company in exchange for common stock after new securities are offered for the bonds.

The Hammond committee says further that the Perkins committee's reference to connecting lines is unquestionably to the Missouri Pacific and adds:

Interests connected with that line have been aware for more than two years that this committee has been endeavoring to arrange a plan. They have been given every opportunity to submit a proposal to this committee and have failed to do so.

If these interests have any intention of submitting a proposal they have had ample time to formulate it and can submit it promptly. Consequently if the announcement of the Perkins Committee is not followed up promptly by a definite plan, it will be apparent that the purpose of its announcement is only to prevent the deposit of bonds under the plan within the time limit therefor (March 1 next) and thus cause the plan to fail.

If the plan of this committee should fail, the Perkins may have a less favorable plan to offer, or it may have no plan at all. In the latter case, the refunding bondholders would be forced to an independent reorganization of the property which would necessitate their raising themselves at least the \$10,000,000 which the Western Pacific now offers. Such independent reorganization would involve either an assessment on the bondholders of probably at least 25 per cent or the acceptance of new securities much less desirable than those now offered under the plan of this committee.

The Perkins Committee has arranged to lend bondholders \$25 per bond (the equivalent of the February coupon) upon the security of their bonds. Under the offer of the Western Pacific, the February coupon is purchased by it, and, whether the plan fails or succeeds, the bondholder has no liability for repayment. The like offer is made in respect of the August next coupon, if the plan is then operative. Coupons so purchased are subordinated to the principal and future interest of the refunding bonds.

Finally, the Perkins Committee offers nothing but a possibility. We offer a concrete, complete and constructive plan. If not accepted by the assent of the requisite number of bonds in the short time limited—prior to March 1 next—the offer may have to be withdrawn. In such case of the bondholders may be left at the mercy of such offer as "one or more connecting lines" may then be willing to make, or perhaps to be driven to the necessity of an independent reorganization.

James H. Perkins, chairman of the so-called Perkins committee for the Denver & Rio Grande refunding 5s and adjustment 7s, said:

I have read the advertisement of the Hammond Committee. The committee to which I belong is not a Missouri Pacific committee. It is a committee representing bondholders of the Denver road. It was not formed until the Western Pacific plan was published, and was formed because

the Western Pacific plan did not seem fair to the Denver bondholders. Our committee believes the Denver is a very valuable property, and that the Denver bondholders have a right to a plan which will properly reflect that value. Our committee will, therefore, oppose any effort to jam through before March 1st a plan which it regards as unfair and unduly in the interests of the Western Pacific. Deposit with the Hammond Committee now means that the bondholder irrevocably consents to the Western Pacific plan before he knows whether he has got the best terms available.

The Western Pacific Railroad Corporation is offering to holders of Denver & Rio Grande adjustment mortgage 7 per cent bonds of 1932, both on account of principal and unpaid interest, 50 per cent of new sinking fund 5 per cent bonds and 50 per cent of new 7 per cent cumulative preferred stock of Denver & Rio Grande Western or of a new company to be organized in its stead. The offer is made contingent on the effectiveness of the proposed plan of reorganization, which hinges on the deposit of 80 per cent of Denver & Rio Grande first and refunding 5s. This is virtually the same offer made to the holders of 5 per cent bonds, except that they receive their interest in cash, while the interest on the adjustment 7s is payable in new securities.

The Western Pacific owns \$5,175,000 adjustment 7s out of a total issue of \$10,000,000, and has issued its ten-year 4 per cent notes against them. These noteholders are offered the privilege of exchanging their notes for the new securities of Denver & Rio Grande Western or its successor on the same terms with respect to principal accorded holders of adjustment 7s.

ERIE.—Asks Government Loan.—This company has applied to the Interstate Commerce Commission for a loan of \$5,000,000 from the revolving fund to assist it in meeting the maturity of \$15,000,000 of three-year notes which come due on April 1.

Earnings in 1921.—This company showed a net railway operating income for the year 1921 amounting to \$2,133,697, after charging in for 1921 approximately \$3,000,000 on account of transactions applicable to the guaranty period. Excluding such charges, the net railway operating income for the year would have been \$5,062,541. As compared with the company's report to the Interstate Commerce Commission in 1920, showing a net railway operating deficit of \$16,994,118, the Erie's 1921 record represents an increase of \$19,127,815.

In 1920 surplus over charges, based on federal compensation for eight months, was \$4,438,585, equal to \$1.67 a share on the \$112,481,900 common stock after preferred dividends. Its earnings last year were equivalent to 4 per cent dividends on both classes of preferred stock, with a balance of \$138,265.

GREAT NORTHERN.—Bond Sale.—A syndicate headed by J. P. Morgan & Co., has sold \$30,000,000 5½ per cent, 30-year general mortgage series B bonds, maturing January 1, 1952, at 96½ and interest, to yield 5.75 per cent.

GULF, MOBILE & NORTHERN.—Asks Government Loan.—This company has applied to the Interstate Commerce Commission for a loan of \$1,088,188 for 15 years from the revolving fund.

ILLINOIS CENTRAL.—Asks Authority to Issue Equipment Trust Certificates.—Application has been filed with the Interstate Commerce Commission for authority to issue \$3,255,000 of equipment trust certificates at 5½ per cent, which it is proposed to sell to Kuhn, Loeb & Co., at 97½, for the purchase of 350 refrigerator cars from the General American Car Company, 2,000 gondola cars, including 500 from the American Car & Foundry Company, 700 from the Pullman Company, 400 from the Western Steel Car & Foundry Company and 400 from the Standard Steel Car Company.

KANSAS CITY NORTHWESTERN.—Asks Government Loan.—This company has applied to the Interstate Commerce Commission for a loan of \$1,300,000 for 15 years.

MANISTIQUE & LAKE SUPERIOR.—Asks Authority to Abandon Line.—This company has applied to the Interstate Commerce Commission for a certificate authorizing abandonment of its McNeil branch in Schoolcraft County, Mich., 7½ miles.

MISSOURI & NORTH ARKANSAS.—Sale Ordered.—Sale of this road, which suspended operation last July, was ordered in a decree issued by United States District Judge Jacob Trieber at Little Rock, Ark., February 7. The decree provides that 30 days may be given for the settlement of as many claims as possible, and that 30 days more for advertising the sale must ensue before the sale takes place. The minimum bid which may be accepted

for the road under the order is \$3,000,000. The sale will be held at Harrison, Ark., its headquarters.

The Missouri & North Arkansas extends from Joplin, Mo., to Helena, Ark., 368 miles. The road has been in the hands of a receiver since April 1, 1912 and was forced to cease operations when its officers failed to raise money needed to run it. Various plans have been attempted to bring about the resumption of operation, including the request of a loan of \$3,500,000 from the government, most of which would be used to pay indebtedness.

MISSOURI, KANSAS & TEXAS.—Suit Filed.—The Central Trust Company of New York filed a suit in the United States District Court at Topeka, Kans., on February 4, to foreclose the first extension mortgage bonds and seven subsequent issues of this company, which has recently been reorganized. The face value of the outstanding extension bonds is given as \$3,253,000. Permission to file the suit was obtained from Judge Walter H. Sanborn at St. Louis January 23. The petition alleges the railroad company executed a mortgage on certain of its branches, franchises and other property on November 1, 1894, on which interest has been unpaid since 1915.

NORFOLK & WESTERN.—Asks Authority to Issue Bonds.—This company has applied to the Interstate Commerce Commission for authority to issue and sell \$666,000 of first consolidated mortgage 4 per cent bonds now held in its treasury for the purpose of reimbursing the treasury for expenditures. The bonds are to be sold at not less than 90.

NORTHERN PACIFIC.—Earnings in 1921.—The preliminary earnings statement for the year ended December 31, 1921, shows net income after taxes and charges of \$22,065,399, equivalent to \$8.89 a share earned on the outstanding \$248,000,000 capital stock against \$7.69 a share in 1920 with the assistance of federal compensation and guaranty. Without federal credits earnings in 1920 were equal to \$1.14 a share.

The preliminary income account compares as follows:

	1921	1920	Changes
Gross	\$94,538,059	\$113,084,407	Dec. \$18,546,348
Expenses, taxes, etc.	86,662,883	111,111,029	Dec. 24,448,146
Operating increase....	\$7,875,176	\$1,973,378	Inc. \$5,901,798
Equipment, rents, etc.	2,968,650	5,976,080	Dec. 3,007,430
Net operating increase.	\$10,843,826	\$7,949,458	Inc. \$2,894,368
Other income.....	*26,552,682	7,549,833	Inc. 19,002,849
Total income.....	\$37,396,508	\$15,499,291	Inc. \$21,897,217
Interest, rentals, etc.	15,331,109	12,668,240	Inc. 2,662,869
Net income.....	\$22,065,399	\$2,831,051	Inc. \$19,234,348
Dividends	17,360,000
Surplus	\$4,705,399
Inv. in road and equipment.	3,525,048

*Includes \$12,451,530 for additional dividend received from Burlington in December, 1921. This payment was made out of savings accumulated since purchase of an interest in the Burlington in 1901.

During the year the company has paid obligations as follows: Five-year 6 per cent note to government, not due until November 23, 1925, \$6,000,000; St. Paul-Duluth Division 4 per cent bonds, \$2,403,000; 7 per cent equipment trust certificates, \$450,000; prior lien bonds, \$276,000; and St. Paul & Northern Pacific bonds \$36,000, making a total of \$9,165,000.

OREGON-WASHINGTON RAILROAD & NAVIGATION COMPANY.—Bond Offering.—A syndicate headed by Harris, Forbes & Co. and including the Guaranty Company, Kissel, Kinnick & Co., White, Weld & Co., the National City Company, and Clark, Dodge & Co. are offering \$8,800,000 first and refunding 4s, due 1961, at 78½, to yield over 5.30 per cent.

SEABOARD AIR LINE.—Condition of Equipment After Federal Control.—Seaboard-Bay Line Company Organized.—This company has taken steps of importance to its security owners in making provision to relieve the condition in which its rolling stock was returned from federal control. In a statement issued February 3, President Warfield points out that over 5,000 cars, or 30 per cent. of the Seaboard's freight car ownership, were returned unfit for use, with little progress thus far made with the United States Railroad Administration in recognition of this condition.

A corporation known as the Seaboard-Bay Line Company is being organized by Seaboard interests to provide the means for purchasing, rebuilding or otherwise acquiring or providing for the reconstruction of cars and equipment for the Seaboard Air Line

and equipment for the Baltimore Steam Packet Company (Old Bay Line), the stock of which is owned by the Seaboard. The new company will have a capital of \$1,500,000 paid in from the resources of the two companies by which the stock will be owned.

S. Davies Warfield, who is also president of the Seaboard-Bay Line, explained the purposes of the new company as follows:

Five thousand freight cars—over 30 per cent of the total freight car equipment of the Seaboard Air Line—were returned from federal control unfit for service. This railroad has thus been compelled to pay per diem charges of over a million and a half dollars per annum for the use of foreign cars, because of the condition of its own cars returned. This has been reflected in operations and has resulted in heavy market depreciation of the securities of the company.

In addition, the Railroad Administration during federal control diverted more locomotives from this railroad to other roads than from all railroads of the South combined. By this diversion—which included 26 new locomotives then being delivered—those remaining were not given classified repairs. During federal control over one hundred million tractive ton miles were run out of the railroad's locomotives without substantial repairs, in excess of the mileage run out when taken over. No adequate adjustment has yet been offered by the Railroad Administration for either their use or repairs. Half a million dollars had to be spent to quickly repair locomotives in outside shops to enable the railroad upon its return to begin to perform its duty to the public. These conditions have otherwise had to be relieved.

Arrangements have been completed to reduce or wipe out per diem charges; also to provide Baltimore Steam Packet Company (Old Bay Line), owned by the Seaboard, with two steamers, one additional steamer to be added to the fleet, the other to replace the one destroyed by fire during federal control through what Circuit Court Judge Rose termed gross negligence. The Steam Packet Company was returned with two steamers only, no relief steamer, and the property otherwise set back under federal control.

The new company—the Seaboard-Bay Line Company—will issue, and has arranged to place \$4,600,000 6 per cent 15-year equipment trust certificates at par. The proceeds, together with the other resources of the new company, will pay for, viz.: 3,000 of the 5,000 damaged or bad order freight cars to be immediately reconstructed by the Chickasaw Car & Shipbuilding Company, located on Seaboard rails at Birmingham, Ala.; also 1,750 new steel under-frame freight cars; 25 Mikado locomotives nearing completion by the American Locomotive Company, and two twin-screw, steel, combination passenger and freight steamers ordered from Pusey & Jones Company, Wilmington, Del., for the Baltimore Steam Packet Company for use between Baltimore and Norfolk, Va.—these steamers will be the last word in marine construction, and will be delivered in the fall.

Delivery of the 3,000 reconstructed cars will begin in 60 days and completed in six months. To reconstruct these cars and complete necessary work on others would require two and a half years in the Seaboard's own shops, which compares favorably in capacity with shops of similarly situated railroads. Per diem charges against operation will thus cease two years earlier, and the work done at much less cost than if performed in Seaboard shops.

When the increased locomotive power and the reconstructed and additional new equipment is in operation, a substantial change may be looked for in the net operating results of this railroad in the saving of per diem alone.

The letting of this work on competitive bids to car builders at much lower cost and much earlier delivery than is possible in Seaboard shops is no reflection on any class of Seaboard employees. This railroad's men are earlier, and the work done at much less cost than if performed in Seaboard shops.

SEABOARD-BAY LINE.—New Company.—See Seaboard Air Line.

WESTERN PACIFIC.—Reorganization of D. & R. G. See Denver & Rio Grande.

WICHITA FALLS & SOUTHERN.—Asks Authority to Issue Securities.—This company has applied to the Interstate Commerce Commission for authority to issue \$144,000 of capital stock and \$1,556,000 of first and second mortgage 6 per cent. gold bonds.

Additional Sales of Equipment Trusts

The director-general of railroads has confirmed an additional sale of railroad equipment trust certificates to the Girard Trust Company of Philadelphia; Chicago & Eastern Illinois, 1923 to 1935, inclusive, \$429,000; Missouri, Kansas & Texas, 1923 to 1935, inclusive, \$728,000. Total amount of these sales \$1,157,000. The total amount of equipment trust certificates sold by the government to date, at par plus accrued interest, is \$219,289,100.

Dividends Declared

Buffalo, Rochester & Pittsburgh.—Common, \$2, semi-annually; preferred, \$3, semi-annually; both payable February 15 to holders of record February 10.

Cripple Creek Central.—Preferred, 1 per cent, quarterly, payable March 1 to holders of record February 15.

Trend of Railway Stock and Bond Prices

	Feb. 7	Last week	Last year
Average price of 20 representative railway stocks close of business.....	57.98	56.35	57.42
Average price of 20 representative railway bonds close of business.....	82.05	81.53	75.74

Railway Officers

Executive

Hugh Wright Stanley, whose election as president of the Tennessee Central, with headquarters at Nashville, Tenn., was announced in the *Railway Age* of January 28 (page 304),



H. W. Stanley

was born on February 13, 1874, at Petersburg, Va. He entered railroad service in May, 1890, as a telegraph operator on the Norfolk & Western, and was successively telegraph operator, stenographer, and chief clerk until 1895, when he left to become chief clerk to the superintendent of the Southern at Knoxville, Tenn. In May, 1897, he became secretary to the general superintendent of the Seaboard Air Line at Hamlet, N. C. He served successively as chief clerk to the general superintendent

from 1900 to 1903; trainmaster from 1903 to May, 1906; division superintendent from May, 1906 to February, 1907; superintendent of transportation, with headquarters at Norfolk, Va., from February, 1907 to March 1, 1910; general superintendent of transportation from March 1, 1910, to October 1, 1911; assistant general manager from October 1, 1911, to May 1, 1912; general manager from May 1, 1912, to October 1, 1914, and assistant to the president from October 1, 1914, to June, 1916. He was then engaged in special work for the National Conference Committee of the Railways and the A. R. A. and was later made assistant to the chairman of the commission on car service, at Washington, D. C. In July, 1917, he was made receiver of the Tennessee Central, which position he held up to the time of his recent election.

Financial, Legal and Accounting

Eugene Wright, whose appointment as secretary of the Long Island was announced in the *Railway Age* of January 28, page 304, was born at Flushing, L. I., on May 8, 1871.



E. Wright

He attended the public and high schools there and in January, 1889, entered the employ of the Long Island as messenger boy in the accounting department. Until February, 1893, he served in various clerical capacities and from that time until June, 1897, was clerk and bookkeeper to the cashier. From the latter date until April, 1906, he was bookkeeper and chief accountant in the accounting department. In April, 1906, he was appointed paymaster, which position he held until February 1, 1919, when he was promoted to general storekeeper. He was serving in this position at the time of his recent appointment.

E. J. Lawler, has been appointed freight claim agent of the Columbus & Greenville, with headquarters at Mobile, Ala., succeeding J. H. Patterson, resigned.

A. M. Warren, chief claim agent of the Louisville & Nashville, with headquarters at Louisville, Ky., has been appointed assistant district attorney of that road for Kentucky and Virginia, with the same headquarters. **H. T. Lively**, freight claim agent, with headquarters at Louisville, has been promoted to general claim agent with the same headquarters. He will have jurisdiction over claims for loss and damage to freight, personal injuries, damage to property, including live stock killed or injured on the right of way, and the prevention of causes for loss and damage freight claims. The positions of chief claim agent and freight claim agent are abolished.

Operating

G. W. Bradley has been appointed trainmaster of the Fort Wayne division of the Pennsylvania, with headquarters at Fort Wayne, Ind.

David E. Nichols, trainmaster of the Northern Pacific, with headquarters at Duluth, Minn., has been transferred to the Pasco division, with headquarters at Spokane, Wash.

W. E. Romine has been appointed trainmaster of the Missouri Pacific with jurisdiction over the Wagoner, Greenwood and Fort Smith districts and the Central division, with headquarters at Van Buren, Ark.

M. F. Weeks has been appointed assistant superintendent of the McGehee district of the Missouri Pacific, including the McGehee yard, the Hamburg district and the Louisiana division, with headquarters at McGehee, Ark.

J. M. Sommers, chief dispatcher of the Grand Trunk, with headquarters at Battle Creek, Mich., has been promoted to trainmaster, with headquarters at Elsdon (Chicago) Ill. He will be succeeded by **B. L. Tyler**, at Battle Creek.

C. A. Veale has been appointed trainmaster of the Southern Pacific, with headquarters at Oakland Pier, Cal., succeeding **W. G. Crocker**, who has been assigned to other duties. The position of assistant trainmaster of the East Bay Electric division has been abolished.

C. A. Cotterell, assistant general superintendent of the Canadian Pacific, with headquarters at Vancouver, B. C., has been appointed acting general superintendent with the same headquarters, succeeding to the duties of **F. W. Peters**, who has been granted a leave of absence.

H. H. Brown, assistant general manager of the St. Louis-San Francisco, with headquarters at Springfield, Mo., has been granted a leave of absence until March 1, after which date the position of assistant general manager will be abolished and Mr. Brown will be assigned to other duties.

J. Leppla, superintendent of the Galena Division of the Chicago & Northwestern with headquarters at Chicago, has been transferred to the Ashland Division with headquarters at Antigo, Wis., succeeding **G. J. Quigley** deceased. He will be succeeded at Chicago by **P. G. Campbell**, assistant superintendent of the Galena Division, who will be succeeded by **F. R. Loyd**, assistant superintendent of the Iowa Division, with headquarters at Clinton, Iowa. **A. R. Pelnar** will succeed Mr. Loyd.

H. E. McGee, general manager of the Missouri, Kansas & Texas of Texas, with headquarters at Dallas, Tex., has been appointed general manager of the Missouri, Kansas & Texas, with headquarters at Parsons, Kan., succeeding **A. S. Johnson**, who has been appointed superintendent of the consolidated Smithville and Texas Central districts (South Texas district) of the Missouri, Kansas & Texas of Texas, with headquarters at Waco, Tex. The position of general manager of the Texas lines has been abolished. **J. W. Evens**, has been appointed trainmaster of the new South Texas district, with headquarters at Waco, and **O. W. Cambell** trainmaster, with headquarters at Smithville, Tex.

Traffic

O. C. Walker has been appointed chief supervisor of perishable traffic and weighing of the Canadian Pacific, with headquarters at Montreal.

Joseph Rankin has been appointed general agent of the Gulf Coast Lines and **J. R. Yore**, commercial agent, both with headquarters at St. Louis, Mo.

W. H. Deacon, traveling passenger agent of the Canadian Pacific coast steamship service, with headquarters at Vancouver, B. C., has been promoted to general agent, with headquarters at Portland, Ore., succeeding **E. E. Penn**, deceased.

R. D. Williams has been appointed traffic manager of the Sacramento Northern, with headquarters at Sacramento, Cal., succeeding **Z. T. George**, who has resigned to enter other business. **J. J. Harris** has been appointed general passenger agent with the same headquarters.

William C. Bowles, whose appointment as assistant freight traffic manager of the Canadian Pacific was announced in the *Railway Age* of January 14, page 210, was born in Montreal on June 3, 1875.



W. C. Bowles

He entered railway service with the Canadian Pacific as a clerk in the general freight office at Montreal. In 1896 he was in Chicago as chief clerk to the general agent, freight department, and in 1897 he was in Montreal in the office of the general freight agent. From the latter date until 1903 he was chief clerk to the trainmaster and general freight agent at Winnipeg, when he was promoted to assistant general freight agent at Calgary, Alta., being transferred later in a similar capacity to Vancouver.

In 1907 he was appointed general freight agent at Winnipeg and served in that capacity until the time of his recent promotion.

Clarence E. Jefferson, whose appointment as general freight agent of the Canadian Pacific, with headquarters at Winnipeg, Man., was announced in the *Railway Age* of December 24 (page 1291), was born at Boston, Mass., on September 6, 1889. He entered railroad service on September 10, 1906, as an office boy in the traffic department of the Canadian Pacific Despatch at Boston, and he was successively office boy, billing clerk, tracing clerk, and tariff and percentage clerk until November, 1911, when he left to become tariff clerk in the freight traffic office of the Boston & Maine at Boston. He later consecutively held the same position in the service of the Maine Central and the New York, New Haven & Hartford at Boston. In March, 1913, he was made percentage clerk in the freight traffic office of the Canadian Pacific at Montreal, Que., which position he held until December, 1915, when he was promoted to assistant general freight agent, with headquarters at Montreal. From June, 1921, to December of the same year, he was acting general freight agent, Eastern lines, with the same headquarters, which position he was holding at the time of his recent promotion.

Mechanical

A. B. Shanks, master mechanic of the Missouri, Kansas & Texas of Texas, with headquarters at Smithville, Tex., has been appointed master mechanic in charge of the newly created South Texas district, with headquarters at Waco, Tex.

T. F. Howley, special agent for the Erie, has been appointed superintendent of locomotive operation, with headquarters at New York.

H. K. York, car foreman of the Canadian Pacific, with headquarters at Alyth, Alta., has been promoted to general car foreman, with headquarters at Moose Jaw, Sask.

G. Moth, division master mechanic of the Canadian Pacific, with headquarters at Edmonton, Alta., has been appointed to the advisory position of district master mechanic of the Edmonton, Dunvegan and British Columbia, with the same headquarters.

William C. Smith, whose appointment as mechanical superintendent of the Missouri Pacific, with headquarters at St. Louis, Mo., was announced in the *Railway Age* of February 4 (page 356), was born at Detroit, Mich., on September 25, 1869. He entered railroad service in December, 1887, as a machinist's apprentice on the Missouri Pacific. He left in April, 1895, to enter the service of the Atchison, Topeka & Santa Fe as a machinist. In December of that year he returned to the Missouri Pacific as a gang foreman and, in January, two years later he was made a machinist. He was promoted to shop foreman in September, 1897, and to division foreman in January, 1902, which latter position he held until January, 1905, when he was promoted to master mechanic. In July, 1912, he was promoted to general master mechanic and in September, 1915, to assistant mechanical superintendent, with headquarters at St. Louis, which position he was holding at the time of his recent promotion.



W. C. Smith

Engineering, Maintenance of Way and Signaling

F. J. Nevins has been appointed valuation engineer of the Chicago, Rock Island & Pacific, with headquarters at Chicago.

D. C. Fenstermaker has been appointed principal assistant engineer of the Chicago, Milwaukee & St. Paul, with headquarters at Chicago, and with such duties as may be assigned to him by the chief engineer, effective February 1. Mr. Fenstermaker was formerly district engineer of the Southern district of this road but has been on leave of absence since April 16, since which time he has been engaged in the construction of a railway for the United Fruit Company in Cuba.

E. L. Martin, engineer maintenance of way of the Missouri, Kansas & Texas of Texas, with headquarters at Dallas, Tex., has been appointed engineer maintenance of way of the Missouri, Kansas & Texas, with headquarters at Parsons, Kan., succeeding H. H. Johntz, who has been assigned to other duties. **W. W. Marshall**, district engineer, Texas lines, with headquarters at Waco, Tex., has been appointed district engineer in charge of the newly created South Texas district, with the same headquarters.

Obituary

C. J. Quigley, division superintendent of the Chicago & North Western, with headquarters at Antigo, Wis., died on February 3, at his temporary home in Chicago. Mr. Quigley was born in Lyons, Wis., on September 15, 1861. He entered railroad service in February, 1881, as a station helper on the Chicago & North Western, since which time he has been successively telegraph operator, agent, general yard-

master at the Chicago terminal, assistant division superintendent with headquarters at Chicago, and division superintendent, which latter position he was holding at the time of his death.

William F. Merrill, formerly a vice-president of the Erie and of the New York, New Haven & Hartford, died at his home in Plainfield, N. J., on February 3. Mr. Merrill was born on July 14, 1842, at Montague, Mass., and was educated at Amherst and Harvard Universities. In 1866 he entered railway service in the engineering department of the Chicago, Burlington & Quincy. From 1873 to 1875 he was resident engineer of the Erie at Buffalo, N. Y. Then for five years he was with the Toledo, Peoria & Warsaw (now Toledo, Peoria & Western), consecutively as assistant engineer, assistant to the receiver and superintendent. From 1880 to 1882 he was general superintendent of the Wabash. The following year he was general superintendent of the Chicago & Alton. From 1883 to 1887 he was superintendent of the Iowa lines of the Chicago, Burlington & Quincy. He then became general manager of the Hannibal & St. Joseph and the Kansas City, St. Joseph & Council Bluffs (both now a part of the Chicago, Burlington & Quincy). In 1890, he went to the Chicago, Burlington & Quincy in a similar capacity and remained in that position until 1896 when he was elected second vice-president of the Erie. In 1900 he became first vice-president of the New York, New Haven & Hartford and in 1903 retired from railroad service.

E. H. Shaughnessy, second assistant postmaster general in charge of the railway mail service, died at a hospital in Washington, D. C., on February 2, from the effects of injuries sustained in the Knickerbocker theatre catastrophe in that city on January 28. Mr. Shaughnessy was born in Chicago on October 26, 1882. He entered railroad service in July, 1899, as a telegraph operator on the Chicago & North Western and during the following 18 years he served continuously in various capacities on this road, both in Chicago and at other points on the line. On May 28, 1917, while trainmaster at Chicago, he was granted a leave of absence to enter military service. He rose from the rank of first lieutenant to lieutenant-colonel, and was assigned in France to the transportation corps, successively serving as general superintendent, assistant general manager, general manager and acting deputy general of transportation of the advance section. While "over there" he collaborated with the French military and civilian railway men in the preparation of a French-English book of rules for railway operation. He was commended for conspicuous service at Chateau-Thierry, awarded the distinguished service medal and decorated with the Legion of Honor by the president of France. Upon his return from overseas, in September, 1920, Colonel Shaughnessy resumed his duties with the Chicago & North Western, as trainmaster on the Galena division, with headquarters at Sterling, Ill. He soon left railroad service to accept an appointment as assistant director, division of transportation, American Petroleum Institute, with headquarters at New York. He was appointed second assistant postmaster general in April, 1921, which position he was holding at the time of his death.



E. H. Shaughnessy

THE RATE OF EXCHANGE on freight shipments between points in Canada and the United States will be 4½ per cent and the surcharge 3 per cent from February 1 to February 14, inclusive. The rate of surcharge on intersectional passenger business will be based on a 4 per cent exchange.